REPORT

ON THE

ADMINISTRATION

OF THE

PUNJAB AND ITS DEPENDENCIES

FOR

1918-19.

Lahore:
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[NOTE.—The General Summary is limited to between 20 and 30 pages and the Departmental Chapters to 150 pages.]

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PART I.

GENERAL SUMMARY.

(The "year" throughout this report is not invariably the financial year ending 31st March 1919. At the heading of each chapter, with the exception of Chapter I, a reference is given to the departmental reports which contain details of the subject dealt with. The "year" of the present report is for each such subject the year mentioned in the title of the departmental report so referred to. In general, it may be said that the "year" in Chapters I, IV, V, VII, VIII and IX means the financial year ending 31st March 1919, in Chapter II it is the revenue year ending 30th September 1918, and in Chapters III and VI it is the calendar year ending 31st December 1918.

The Administration Report for 1911-12 was a decennial report, and as such contained many sections of permanent interest to which reference may be necessary in order to understand the working of the Administration; under the orders of the Government of India these sections are not repeated each year, but a reference is given to them in their place in the several chapters of part II of this report.

Except where otherwise stated, the Punjab in this report refers to the Punjab as at present constituted.)

Lieutenant-Governor.

SIR M. F. O'DWYER, G.C.I.E., K.C.S.I.

The War.

1. Although the month of November happily saw the cessation of hostilities, the war overshadowed all other interests during the first six months of the year 1918-19, and must consequently be assigned a prominent place in any review of the year's working despite the fact that the subject has been exhaustively discussed in the past. It is perhaps too early to estimate at its true value the part played by this Province, but it is safe to affirm that, as compared with the rest of India, the Punjab as a whole has emerged from the searching test with enhanced reputation and prestige. The kindly historian will have little difficulty in glossing over the few weak spots; the severest critic will be obliged to admit that the good far outweighs

the bad. The Punjabi peasant in particular, in all save a very few districts, has reason to be proud of his record, and has once more demonstrated his right to be considered the backbone of the Province.

2. During the first three years of the war no fewer than one-quarter of a million combatants had answered the call for men. Nevertheless when a further and more urgent appeal was received the Lieutenant-Governor had no hesitation in asking for a further instalment of 180,000 combatants within a year. Doubts were freely expressed as to the ability of the Province to furnish so large an additional *quota*, but the figure was justified by the results. In spite of the serious epidemic of influenza, which for some weeks paralysed all forms of activity, well over 92,000 men had joined the colours in the five months of the recruiting campaign, and had the enemy not collapsed there is every probability that the full number would have been obtained. In any case the Province can claim to have supplied more than half the total raised in the Indian Empire. Regarded in terms of comparative population the result is not one of which the Punjab need feel ashamed.

3. Of the combatants the Muhammadans comprising $\frac{5}{9}$ths of the population furnished 48 per cent., while Hindus and Sikhs, the former with $\frac{3}{9}$ths and the latter with $\frac{1}{9}$th of the population, are each credited with about 25 per cent. If allowance be made for the fact that the Hindus reside in cities and towns to a much greater extent than the Sikhs the disparity between these two communities is considerably lessened, and it may be said that the rural Hindus made a fair response to the call. The townspeople on the other hand, though forming about $\frac{1}{10}$th of the population of the Province, contributed very little to the recruiting record.

4. It is, however, not only in the matter of men that the Punjab stands prominent in India. Dependent mainly on agriculture, its wealth as compared with that of the great trading centres, is inconsiderable. Yet it succeeded by dint of whole-hearted effort in securing for itself a most honorable place among contributors, whether in respect of the War Loans, or in connection with the various funds established with the view of assisting directly or indirectly those engaged in active service. While the results achieved were in large measure due to the widespread desire evinced by the villagers to take their full share of the burden, it is pleasing to note that many of the wealthier townspeople came forward with generous subscriptions.

Security.

5. The military force operating from Dera Ghazi Khan against the rebellious Marri and Khetran tribes in the Baluchistan Agency was withdrawn in May 1918, and during the rest of the year the frontier situation was normal.

6. Apart from the very serious disturbances which occurred in April 1919 and which consequently do not come within the scope of this report, the internal conditions in respect of crime were not unsatisfactory. Although there was a slight increase over last year's total in the number of cognisable cases, the figures compare very favourably with those of preceding years and there was a decrease in the more violent

forms of crime such as murders, robberies and riots. The conditions in the latter part of the year were calculated to stimulate certain forms of crime. The high prices of necessaries caused some distress among the more poorly paid classes. On the other hand, the scarcity of fodder is reported to have had a restraining influence on cattle thieves.

7. There were a few instances of defiance of constituted authority, but generally speaking the behaviour of the Province was good and war activities were loyally supported. The effects of influenza were seen in the falling-off in convictions and the longer duration of cases. The Village Patrol Act and the Restriction of Habitual Offenders Act have both begun to prove their usefulness. Under the latter Act the absentee himself is liable to punishment, whereas previously the only man who suffered was the headman who had failed to prevent or report the absence.

8. Steady progress continues to be recorded in connection with the reformation of the criminal tribes. Conditions in the original settlements have been materially improved and the inmates are becoming more reconciled to the restraint which is naturally irksome to persons who have inherited the traditions and propensities of a nomadic life. A marked advance has been achieved in respect of the elementary education and discipline of the children in the settlements, while the year has seen a satisfactory rise in the wage-earning capacity of the inmates.

9. A remarkable feature of the year's working among the criminal tribes has been the success attained in regard to recruiting. When the armistice rendered further operations unnecessary, the number of criminal tribesmen in the army exceeded 2,000, nearly two-thirds of whom had enlisted for active service. Having regard to the fact that the recruits were derived from a population naturally averse to honest labour and impatient of discipline, the figures are impressive and every effort will be made to maintain the army connection.

10. Many of the settlements are now controlled by non-official societies whose members in not a few cases take a real interest in the work. It is also encouraging to find that various Native States are now beginning to tackle the problem of their criminal tribes and Patiala has decided to establish within its borders two industrial settlements.

Condition of the people.

11. The spring crops of 1918 were unusually good, but the general scantiness of the subsequent monsoon caused the almost complete failure of the autumn harvest, except in the case of cotton grown on irrigated lands. The virulent epidemic of influenza which raged during October and November interfered seriously with sowings for the spring harvest of 1919 and a greatly restricted area of unirrigated land was cultivated. Despite the lowness of the rivers, however, an extra half million acres were sown on canal lands and timely rains in January and February appreciably improved the position.

12. When the failure of the monsoon was established export of food-grains, except for troops in Mesopotamia and East Africa, was prohibited. Stocks prior to the last harvest were at a low ebb, and it

was essential that a sufficient supply of food should be retained for the use of the Province. Prices stood at a very high level, and, notwithstanding the prohibition of export, the efforts of profiteers and the holding up of stocks prevented any substantial reduction. The policy of requisitioning stocks at reasonable rates was put in force, but the system met with only partial success. House-to-house visitation was hardly practicable and holders refrained from sending stocks to markets where they might be requisitioned. In addition the practice of despatching grain by road rather than rail and thereby evading export restrictions received an undesirable stimulus. Eventually it was decided that the great difficulties in the way of taking over all stocks of any importance would have to be faced, but fortunately before action was taken the promise of the spring harvest and the fears of large imports from Australia led to an improvement in the situation and the ordinary laws of supply and demand were able to re-assert themselves.

13. While the range of high prices pressed severely on Government servants and persons on fixed incomes, the agricultural community and the trading classes both enjoyed a prosperous year. The former had no difficulty in disposing of all their produce at rates which yielded them very handsome returns, while the latter were able to turn the conditions of the year to their own advantage. Proof of these statements is to be found in the fact that the price of land again showed a very substantial rise and despite large sales of holdings to Government tenants at rates much below the market value, the average sale figure over the whole Province represents 171 years' purchase of the land revenue assessed. Income- tax returns also showed increased prosperity, though owing to radical changes in procedure a large proportion of the demand was not recovered before the close of the year. The labouring classes benefited by the strong demand for workmen of all kinds and were able to secure wages more or less commensurate with the rise in prices. They were also assisted indirectly as regards clothing by the large orders placed in Bombay for supplies of standard cloth.

Finance.

14. The cessation of hostilities occurred well on in the financial year and had little immediate effect on the funds. The closing balance was Rs. 36 lakhs better than that of the previous year. Receipts were Rs. 32½ lakhs and expenditure Rs. 58 lakhs above last year's figures. Excise and Irrigation, Major Works, were the chief contributors to the improvement in income, while Public Works and Education together accounted for 24 lakhs of the extra disbursements. Prices remained at a very high level throughout the year and wages reached a record figure. Government was thereby involved in large expenditure on grain compensation allowance plus a special war allowance to Government servants drawing Rs. 50 or less per month. A good autumn harvest would undoubtedly have eased the situation but unfortunately owing to the failure of the monsoon the crops were exceptionally poor.

15. Though the Provincial balance is substantial, the future is not without its difficulties. Much leeway due to the war, in respect of communications and sanitation in particular, has to be made up,

while there are large new commitments in connection with education and agriculture. Moreover, the revision of the pay of Government servants will have to be faced, and the introduction of the Reform Scheme must materially add to the cost of the administration. The depletion of the balance will afford only temporary relief, and it seems clear that it will not be long before other measures for meeting the expenditure will have to be considered.

Agriculture and Rural Economics.

16. The autumn harvest of 1918 proved a sad contrast to the spring harvest of that year which was excellent. The scantiness of the monsoon was responsible for the almost total failure of the crops, the only important exception being cotton grown on irrigated lands. Sowings for the spring harvest of 1919 were hampered not only by the influenza epidemic but by the lack of moisture in the ground and much of the unirrigated area was left unsown. Thanks, however, to timely rains in the beginning of that year the irrigated areas turned out well and in certain favoured parts the yield from unirrigated lands approached normal.

17. Whether under the stimulus of the high prices obtainable for all kinds of agricultural produce or merely in the natural course of development, the agriculturist is now evincing a growing interest in the scientific side of his profession. At the Lyallpur Agricultural College, for instance, there was for the first time on record a preponderance of agriculturists among the candidates for admission. More particularly in the cases of cotton and wheat, experiments with different varieties of pure seed are beginning to attract much attention and producers are ready to substitute for the variety in use any form which promises better results. The demonstration farms which are being started in numerous districts will no doubt encourage the movement towards those improved methods of cultivation which have already added appreciably to the yield of the Province. The general outlook in respect of agricultural progress is decidedly hopeful.

18. The demand for improved implements has been checked by the rise in prices, but will probably revive when the new engineering workshop at the Lyallpur College is completed. Well-boring work shows an improvement over the previous year, though the work has been seriously hampered by the despatch of staff and plant to Persia.

19. Increasing interest is being displayed in connection with the betterment of live-stock. Despite difficulties as to fodder the number of stud bulls working in the Province has risen by nearly 14 per cent. and some progress has been made in the direction of the popularizing of three-quarter and half-bred merino rams.

Co-operation.

20. The words 'substantial advance' may be employed to sum up the results of the year's working in respect of the co-operative movement and this despite the fact that development was temporarily checked in the first place by the serious epidemic of influenza and subsequently by the disturbances in the spring of 1919. Generally speaking, there has been an awakening of interest in the movement in tracts

hitherto unstirred, while the number of societies has largely increased, the older associations have gained strength, and several new forms of co-operation have been introduced.

21. Central Credit Societies in this Province may be either Central Banks or Banking Unions. The former, which may now be said to be in a strong financial position, enjoy certain advantages over the Banking Unions in that they have a command of urban capital while their semi-official character engenders confidence. On the other hand, the Banking Union, which is steadily on the increase, represents a more self-reliant and self-governing tendency. Operations being confined to small areas the Unions possess an intimate knowledge of the credit of their members and are more co-operative in spirit. Their growth is a matter of congratulation, and even if areas outside such Unions dwindle away the Central Banks will still be able to play a most important rôle in the financing of the Banking Unions.

22. Primary Agricultural Credit Societies notwithstanding careful pruning have now reached a total of over 5,000 and in general their position is most promising. Fictitious recoveries have almost ceased and loans are distributed with less regard to favouritism. The reduction of debts proceeds apace, while the general adoption of the principle of indivisible profits is likely to hasten the accumulation of resources and thus enable societies to offer more favourable rates for loans.

23. The conditions of the year tended to encourage supply or distribution societies. There is no doubt that such societies do help to checkmate the profiteers to the benefit of the members concerned, but it is difficult to say whether this type of society will persist. So far these societies have been largely dependent on Government assistance and thus lack the real co-operative management. An interesting experiment is the registration of tree-planting societies for the supply of timber and fuel. The enterprise is worthy of imitation, but members must be prepared to look far ahead.

24. Cattle Insurance Societies have made a successful start and the principle of Government assistance to this form of co-operation has been accepted, though the details have not yet been worked out. There is a proposal to form arbitration societies and should it materialize the societies are likely to play an important part in the creation of a Panchayat system, and to exercise a wholesome influence upon the moral as well as the material welfare of the people.

Vital Statistics and Medical Relief.

25. The drier conditions of the year did not favour malaria, and though the birth rate was low—a legacy probably of the severe malaria of the preceding year—the period would have been exceptionally healthy had it not been for the virulent and widespread epidemic of influenza in the late autumn. Owing to this the death rate exceeded all previous records.

26. Influenza is reported to have reached the Punjab in July, but it was not till August that cases were definitely recognised. These cases were all of a mild type. During September the area of infection rapidly extended, and by the end of that month the whole

Province was infected. In spite of this the death rates during August and September were the lowest of the year. In October, however, the character of the disease completely altered and a peculiarly fatal type of pneumonia appeared as a concomitant. The worst period was from 15th October to November 8th, when the state of the Province can only be described as appalling. During November the disease continued to take a heavy toll from the rural population, but began to abate in urban areas. In December the epidemic virtually ceased except in the Kangra District and the remote hill tracts where people were still dying as late as the first week in January. Generally speaking, the rural areas suffered more severely than the towns, partly on account of the greater distance from medical aid and partly from the lack of organisation.

27. Cholera was not an important contributor to the year's mortality, but both plague and small-pox showed increased figures. The epidemic of plague in Multan City was particularly severe, but the measures taken to cope with it were thorough and well organised. The attitude of the people generally in regard to anti-plague precautions is becoming more enlightened, but the spread of sound ideas on the subject will be achieved only by perseverance coupled with great tact and patience on the part of those who are in charge of the preventive measures.

28. With the assistance of a special grant by Government 13 new dispensaries were opened, as compared with 2 closed. Further Government assistance has been promised, one condition laid down being the introduction of the system of charging fees from the well-to-do classes—a system which so far has made little headway. The influenza epidemic called attention to the urgent need for improving the standard of medical aid in rural tracts, and the provision of more dispensaries is obviously one of the means at command. Travelling dispensaries are popular and go some way towards supplying the deficiency, but they are hardly adequate substitutes for permanent institutions.

29. The dearth of qualified medical women still continues, but it is hoped that the scheme for a provincial service which has been sanctioned since the close of the year will assist matters by attracting candidates who can look forward to a secure position and fair prospects. The formation of local committees under the ægis of the Punjab Central Midwives Board at each district headquarters for the training and supervision of indigenous *dais* is likely to mark an important advance in the arduous campaign against the high infantile mortality. The struggle should be further assisted by the passing of the Punjab Adulteration of Food Act, which will enable city supplies of milk to be properly controlled.

Excise.

30. The most striking feature under this head was the unprecedented total recorded under excise receipts, which have much more than doubled during the past ten years. At first sight it might appear that the policy which has been steadily pursued of combining the maximum of taxation with the minimum of consumption has not met with success. But in any comparison with the past allowance must be

made for various increases of duty, the diminished purchasing power of the rupee and the special but probably transitory conditions brought about by the war. In addition there is no doubt that the widespread epidemic of influenza largely contributed to the enhanced consumption of country liquor, the latter being regarded as a valuable prophylactic. In this Province where there is a large but scattered area under sugarcane great care must be exercised lst any measures introduced, far from reducing consumption, merely effect a substitution of illicit products for the more wholesome distillery spirit.

31. The advice of local bodies continues to be widely sought and has proved of value on many points of detail. A further step towards gauging public opinion on questions of Excise policy has been taken in the recent formation of a Standing Committee of the Legislative Council.

32. There has been a marked and satisfactory decrease in the consumption of opium and *charas.* The system under which issues of opium to vendors are restricted to *bonâ fide* requirements calculated on an estimate of the sales in previous years has had a good effect both in reducing consumption and checking smuggling to other Provinces. As *charas* has now been replaced by treasury raw silk and Russian paper money as the medium of exchange in the Yarkand trade it may be possible to effect still further improvements in the figures relating to this deleterious drug.

Trade and Industry.

33. Trade in the Punjab is closely interwoven with agriculture, and during the triennium 1916-17 to 1918-19 agricultural conditions were not markedly favourable, the outturn of crops being slightly below normal. A higher general range of prices, however, more than compensated for any deficiency in yield, and it may safely be affirmed that despite the restrictions on trade the commercial prosperity of the Province successfully survived the war. There is indeed every reason to expect that the restoration of normal conditions will witness substantial devolpments. Exports showed an appreciable increase in volume and a very large rise in value, as compared with the preceding triennium. In respect of volume imports fell off slightly, but in their case also the enhancement in value was considerable. The recovery of a favourable balance of trade and the fact that the gross volume in the period under review surpassed all previous records are sufficient evidence that the restrictions on transport and traffic necessitated by the war and the increase in railway freights have not produced any seriously prejudicial effects. On the export side the main features were the strong demand for cotton at a very high average price and the large consignments of salt and saltpetre, the former in consequence of the shortage elsewhere and the latter in view of war requirements. In respect of imports the enormous absorption of silver coinage furnished the outstanding characteristic.

34. The returns relating to the trans-frontier trade with Afghanistan, Central Asia and Tibet exhibit greatly increased figures, and it is satisfactory to find that the balance of trade is growing steadily in favour of the Punjab. The total value of the trade has risen from

¾ crore in the triennium 1910—13 to nearly 1½ crores. It is not possible at this stage to judge whether the increase will be maintained, as the predominant cause of the betterment is to be found in the diversion of trade from Russia and the neighbouring countries owing to their disturbed condition. The demand for piecegoods in Central Asia, however, has been progressive and may be regarded as permanent. There would appear also to be an excellent market for the cheaper kinds of tea in Tibet, but its development would seem to be dependent on the improvement of the Hindustan-Tibet Road.

35. The total of factories registered under the Act showed a slight increase, due mainly to the opening of new cotton-ginning factories, and although 13 per cent. of the factories were not worked during the year, the average number of operatives rose to a record figure. The management of the factories still leaves much to be desired, and owing to the absence on military duty of the permanent factory inspector evasions of the rules were, it is to be feared, not infrequent.

Local Self-Government.

36. In a Province like the Punjab where such large differences exist between the more advanced and the more backward local bodies generalisations present obvious difficulties. It may, however, be said that the year has been one of steady, if slow, progress throughout the Province. Every effort has been made to foster a sense of responsibility, but there is still far too great a tendency to regard Government as a kind of universal provider expected to produce on demand unlimited supplies of money and other forms of aid. There is excuse for the financial dependence, because the present sources of income are as a rule highly inelastic, while oans have of late years been practically unobtainable. With an improved system of finance and a greater readiness to bear the burden of ordinary work, there appears to be no reason why local self-government should not in time attain a satisfactory standard ; good material is not lacking, but before it can be fully utilised, it must rise superior to the idea which is still prevalent that a defeat at an election means disgrace.

37. In the case of municipalities a marked stimulus to election was produced by the introduction of new rules incorporating the system of voting by ballot. In the larger towns the average voter is now beginning to take a more intelligent interest in the privilege he enjoys, but in the smaller areas apathy is still the prevailing atmosphere, except where it is dissipated by the strength of faction feeling or sectarian rivalry. A hopeful sign is the appearance of a better class of candidate, but the feeling alluded to above still deters many of the most suitable citizens from coming forward. A lack of initiative continues to be a prominent defect ; possibly the gradual introduction of non-official chairmen and the lessening of official control will provide at least a partial remedy. The growth of the real civic spirit able to rise above self, party or creed must necessarily take time, and all that can be done at present is to assist the development in every possible way.

38. Though the combined income of Municipalities still exceeds the combined expenditure, the financial position is by no means

satisfactory. Income is practically stationary, while schemes involving large expenditure which have been held up owing to restrictions due to the war cannot be postponed indefinitely. It seems clear that new methods of taxation will have to be evolved. A system of loans obviously afford the simplest method of financing the more expensive projects, but loans demand credit, and in nearly every case throughout the Punjab that credit will have to be built up by careful administration and appropriate taxation. The task will not be easy, but the measure of success attained will provide an excellent test by which to estimate the progress of urban local self-government.

39. It is hoped that the new election rules, which will come into force early in 1920, will give an impetus to the elective system in the case of District Boards. The constitution of the boards and the electoral circles have been revised, and polling will take place simultaneously throughout the Province. Despite the lack of popular demand opportunity will also be taken to introduce an elective element in those boards where it does not at present exist. Very few vacancies were contested during the year, but the new arrangements may be the means of awakening more general interest. The distances that members have to cover preclude the holding of any large number of meetings, and the use of properly empowered sub-committees successfully employed during the year in various districts seems deserving of much further extension.

40. Like Municipalties, District Boards are faced with the problem of a rapidly expanding expenditure and an income that is practically fixed. Subsidiary sources of income may be developed, but the raising of the maximum limit of the local rate appears to be almost inevitable.

41. Satisfactory progress has been made in regard to primary education and the adoption by many boards of the 5-year programme prepared by the Education Department will ensure steady and regular growth. The boards are now actively assisting in popularizing more scientific methods of agriculture, and there is ample scope for their energies in this direction. Arboriculture is being slowly recognised as a valuable asset, but there is still a lack of systematic work. Few boards as yet realize their responsibilities in respect of village sanitation; those that do attempt reforms receive little encouragement from the villagers concerned.

Education.

42. The year has been one of exceptional educational activity, marked by a number of important reforms in administration and procedure. The expansion of vernacular education in rural areas and the improvement in the pay of the teaching staff, the passing of the Punjab Primary Education Act, the introduction of agricultural teaching in Middle and High schools, and the revision of the Lower Secondary school courses are among the chief features. The number of educational institutions in the province increased by 125 and the attendance by nearly 11,000. The total expenditure on all kinds of public instruction advanced by more than Rs. 9¼ lakhs to nearly Rs. 1¼ crores, of which more than Rs. 56½ lakhs were contributed directly or indirectly by Government. The proportion of the expenditure derived from fees amounted to 23 per cent.

43. The Punjab Primary Education Act embodies the principle of compulsory education by local option. The conditions of compulsory education described in Part II of the Act come into force only when a local body has agreed by a two-thirds majority to introduce compulsory education in the whole or any part of the area under its control, and even then not until Government has approved of the proposals. The difficulty arising from the remission of fees in the case of children who but for the Act would not have attended school and who enrol themselves in schools under private management, which cannot afford to dispense with the fee income, has been met by a provision that the local body which introduces compulsion shall not only not charge any fees in schools maintained by itself, but shall, if required, pay to the managers the whole or any part of the fees of boys who prefer to attend recognised private schools. Since the close of the year an application for the extension of the Act to the Multan Municipality has been received.

44. In paragraph 31 (Part I) of last year's report reference was made to the preparation of five-year programmes by each district board on the basis of its financial capacity. The survey has now been completed and programmes finally drawn up. Some idea of the scope of this programme will be obtained from the fact that the total recurring charges, which provide for improved pay and prospects for teachers, will in the fifth year exceed Rs. 12 lakhs while the aggregate capital expenditure on equipment and buildings is estimated at over half a crore. Without Government assistance the carrying out of these programmes would have been an impossibility, and a pledge has been given under which Government will meet a fixed proportion of the cost, that proportion being based on the present financial condition and the future prospects of each board; while a special allowance has also been made in the case of districts which have rendered exceptional services during the war. Government has also undertaken to provide half (and in some cases three-fourths) of the expenditure on building and equipment.

45. The attention given to agricultural education is an important feature of the year's progress. In accordance with the Provincial Conferences held to consider this important subject it has been decided that while the practical and technical teaching of agriculture should not be introduced until the secondary stage, nature study should form an essential part of the teaching in primary schools. Students of vernacular Middle schools are drawn largely from the rural classes, and consequently it is in such schools that instruction in agricultural matters can be most profitably imparted. In Anglo-Vernacular Middle schools, on the other hand, a majority of the pupils have no interest in agriculture as a profession, and in their case the conversion of the present science teaching into a course in agricultural science is all that is practicable. In High schools agriculture must necessarily be an optional subject in which theoretical and practical training are equally essential. A grant of Rs. 4,69,000 has been sanctioned from Imperial Revenues to assist the scheme which cannot be introduced in its entirety until the dearth of qualified teachers has been remedied. Arrangements have, however, been made under which selected Junior Anglo-Vernacular teachers will undergo a course of agricultural science at the new Training College at Lyallpur; while the instructors in the

High Department will be graduates of the Agricultural College who have received a training in practical pedagogy.

46. Many difficulties have hitherto attended the progress from primary to secondary education and the relation between the Middle Department and the teaching of English. With a view to overcoming these difficulties a series of changes in the system of education has been introduced. The standard Primary school has been reduced from five to four classes, and where such schools are large and adequately staffed, they will become lower Middle schools by the addition of a fifth and sixth class. Arrangements are also being made for the optional introduction of English in vernacular Middle schools and for the postponement of English in Government and Board schools to the Middle Department.

47. Steady progress continues to be made in other directions. The institution of the Diploma of Commerce by the Punjab University makes special provision for students desirous of entering on a commercial career. A new department was opened in the Mayo School of Arts for the training of architectural draftsmen under the immediate supervision of the Consulting Architect to Government. A school for the training of disabled soldiers in oil engine and motor work was opened in connection with the Railway Technical School. The special grant of three lakhs of rupees made by Government to the Khalsa College, Amritsar, in commemoration of the services rendered by the Sikh community during the war will enable the authorities to complete the College building and undertake various necessary extensions.

48. The demand for the education of girls appears to be gradually increasing and the number of pupils has risen appreciably. The provision of four new normal schools for women should go far towards the removal of difficulties in respect of the supply of trained teachers, but the lack of funds presents a serious obstacle to any large developments in the way of female education.

PART II.

DEPARTMENTAL CHAPTERS.

CHAPTER I.

PHYSICAL AND POLITICAL GEOGRAPHY.

1.—Physical Features of the Country, Area, Climate and Chief Staples.

(See pages 1—16 of the report for the year 1911-12.)

2.—Historical Summary.

(See pages 16—30 of the report for the year 1911-12.)

3.—Form of Administration.

(See pages 30—48 of the report for the year 1911-12.)

4.—Character of Land Tenures and System of Surveys and Settlements.

(See pages 48—58 of the report for the year 1911-12 and the Punjab Settlement Manual.)

5.—Civil Divisions of British Territory.

(See pages 59—62 of the report for the year 1911-12.)

6.—Details of the last Census—Tribes and Language.

(See pages 62—71 of the report for the year 1911-12.)

7.—Changes in the Administration.

1. Sir Michael O'Dwyer, G.C.I.E., K.C.S.I., held charge of the office of Lieutenant-Governor of the Punjab throughout the year under report.

2. The appointment of an Inspection Judge every cold weather has come to be regarded as a more or less permanent necessity in view of the continued success of the scheme for the systematic inspection of the subordinate courts in the Punjab, and the appointment was renewed for the cold weather of 1918-19.

3. The close of the year left this Province on the eve of an important change, and the proposal to convert the Chief Court into a High Court, which had been held in abeyance on account of the war, was carried into effect from the 1st April 1919.

8.—Relations with Tributary States and Frontier Affairs.

I.—PHULKIAN STATES.

4. Mr. L. M. Crump, I.C.S., held charge of the Agency throughout the year. The post of Personal Assistant remained vacant.

PATIALA.

Area, 5,412 square miles; population, 1,407,659; approximate revenue, Rs. 110 lakhs; army and police, 5,557; Major-General Maharaja Sir Bhupendra Singh, G.C.I.E., G.B.E., Sidhu Jat; aged 28; has a male heir; salute, 19 guns (including 2 personal).

5. His Highness the Maharaja has been in excellent health throughout the year under report. He was invited to the Imperial War Conference as a representative of the Indian States and was appointed Honorary Major-General in the British Army and Honorary Colonel of the 15th Ludhiana Sikhs and of the newly-raised 1-140th Patiala Infantry. Personal.

PHYSICAL AND POLITICAL GEOGRAPHY.

During his visit to Europe, His Highness was invested by the King of the Belgians with the Grand Cross of the Order of Leopold and by the President of the French Republic with the Office of the Grand Officer of the Legion of Honour. The King of Italy conferred on him the Order of the Crown of Italy and the Sultan of Egypt decorated him with the Grand Cordon of the Order of the Nile. On his return to India His Highness was presented at Delhi by his brother Princes with a Sword of Honour in commemoration of his valuable services.

The War.

6. The State continued to make its contributions in men, money and material towards the Great War. The total expenditure in the form of aid thus rendered from the commencement of the war up to the end of the year under report amounts as estimated by the Darbar to Rs. 1,17,16,822. The total number of recruits raised in the State for service in the War from its commencement is returned as 28,022. The State continued to maintain one camel corps and 2 mule corps raised in the previous year. Special rewards, khillats and distinctions were granted to the State officials and State subjects by His Highness in recognition of their War services. The fourth War anniversary was celebrated with solemnity and enthusiasm. The day was observed as a public holiday, and prayers were offered for victory of the British arms. The Patiala Imperial Service Infantry and the Patiala Rajinder Lancers returned to Patiala from field service on 27th January 1919 and 11th February 1919, respectively. The days of their return were observed as public holidays in all the local offices, college and schools. On their arrival at the station a procession was formed and, led by His Highness in person, marched through the city towards the Moti Bagh where His Highness suitably acknowledged their services at the front.

Crops and Irrigation.

7. The area of *rabi* sowings was average, but the *kharif* crop was very poor and much *barani* land remained unsown owing to the failure of the monsoon. No new irrigation projects could be taken in hand during the year under report owing to extraordinarily heavy war expenditure. General improvements in the existing channels were, however, executed as funds permitted. A scheme for making a dam at Bakhra, high up the Sutlej river, is under the consideration of the British Government. If this should materialise, as is likely, there will probably be increased possibilities of irrigation in the Patiala State.

Public Health.

8. The birth rate for the year (29·95 *per mille*) was distinctly lower than last year (36·2 *per mille*) while the death rate (70·30 *per mille*) was more than double (30·39 *per mille*). The large increase in the death rate was almost entirely due to the influenza epidemic, more than 60,000 deaths being attributed to this disease.

JIND.

Area, 1,259 square miles; population, 271,728; approximate revenue, Rs. 24 lakhs; army and police, 1,815; Lieutenant-Colonel Maharaja Sir Ranbir Singh, G.C.I.E., K.C.S.I., Sidhu Jat; aged 40; salute, 15 guns (including two personal).

Personal.

9. His Highness enjoyed good health during the year under report. He resided throughout the year in the State, except for short visits to Lahore from 9th to 11th January 1919 and to Lahore and Rawalpindi from 26th to 31st March 1919. During the year under report the administration of the State was conducted on the same lines as before. The Lieutenant-Governor paid a visit to the State in February 1919 and attended a Parade and a State Banquet.

The War.

10. The war expenses of this State during the year including Rs. 2½ lakhs invested in the Second Indian War Loan amounted to just under Rs. 7 lakhs. The total War expenditure has now reached the figure of Rs. 32,99,207.

11. The Jind Imperial Service Regiment, which served for 3¼ years in East Africa, earned 47 distinctions including one C.I.E. and one Military Cross.

12. The Darbar persevered in its recruiting efforts. The total number of persons supplied from the State for the Indian Army during the year under report is 741. Adding to this number those serving in the Indian Army at the outbreak of war, *viz.*, 1,712, and those enlisted in the period from the outbreak of war till 31st March 1918, the total contribution of the State to the Indian Army comes to 6,885. Adding the figures of Jind Imperial Service Regiment, *i.e.*, 1,788, the total contribution of manpower by the State amounts to 8,673. As the total male population of the State is 149,947, the State has thus contributed 1 out of every 17 of its male population or 1 out of every 5 of military age. This is a record of which Jind State may well be proud.

Crops.

13. The absence of rainfall in the month of October and November resulted in the complete failure of *barani* crops. The outturn of canal-irrigated crops was also below normal. Fodder was very scarce and the people had to import fodder from outside.

Public Health.

14. No less than 24,470 deaths were registered as compared with 9,266 births. Influenza claimed about 19,000 victims while an epidemic of small-pox accounted for nearly 500.

NABHA.

Area, 928 square miles; population, 248,887; approximate revenue, Rs. 19½ lakhs; army and police, 1,532; Maharaja Ripudaman Singh, Sidhu Jat; aged 36; has a male heir; salute, 11 guns.

Personal.

15. His Highness enjoyed fairly good health. He visited Simla in the summer but could not attend the Chiefs' Conference held at Delhi in January 1919. The system of administration continued as before.

The War.

16. The Imperial Service Regiment of State went to Mesopotamia in June 1918 and returned in January 1919. The other war offers made by the Maharaja, and referred to in last year's report, were (1) Rs. 3,00,000 towards the cost of the Expeditionary Force, (2) 100 horses, (3) the use of the State houses in Simla, Lahore and Ambala. His Highness's contributions to objects connected with the War were Rs. 2,25,000 for the Hospitalship "Nabha" for service in Mesopotamia, Rs. 3,70,491 to various War funds and nearly another lakh for armoured aeroplanes and ambulance cars.

Crops.

17. The outturn of crops wasonly moderate, but no suspensions were required.

Public Health

18. The State enjoyed immunity from cholera and plague, but influenza exacted a heavy toll. Deaths exceeded births by rather over 600.

II.—STATES OF THE BAHAWALPUR AGENCY.

19. Mr. W. C. Renouf, I.C.S., held charge of the Agency during the year.

BAHAWALPUR.

Area, 15,000 square miles; population, 780,641; approximate revenue, Rs. 41 lakhs; army and police, 2,068; Nawab Sadiq Muhammad Khan, Abbasi, V, Daudputra; aged 14; salute, 17 guns.

Personal.

20. His Highness the Nawab has enjoyed excellent health except for a mild attack of influenza in October 1918, which left no after-effects. His physique has developed very satisfactorily in the last year. His college reports continue to be good. The administration of the State proceeds on sound lines under the Council of Regency.

The War.

21. The Imperial Service Camel Corps continue to be efficient. The camel escort which was employed in Egypt with the Alwar Infantry returned in February after 3½ years' service. The Darbar invested a further sum of Rs. 20 lakhs in the Second War Loan. Rupees 30 lakhs of Government Promissory Notes were converted into the War Loan of 1927—1947, the value of the War Bonds thus acquired being Rs. 22,80,000. The Darbar undertook to raise a second Transport Camel Corps and when the armistice was signed, almost half the corps had been organized. Recruiting was prosecuted with energy and with increasing success as the people became accustomed to the idea of military service and by the end of the war 2,829 recruits had been provided.

PHYSICAL AND POLITICAL GEOGRAPHY.

Crops.

22. Canals ran badly in a summer of abnormally low rainfall and the *kharif* was consequently much below the average. The *rabi* though on a restricted area was moderate, but fodder was scarce.

Public Health.

23. Plague and influenza account for the fact that there were 17,044 deaths as compared with only 4,620 births.

MALER KOTLA.

Area, 167 square miles; population, 71,144; approximate revenue, Rs. 14 lakhs; army and police, 1,026; Major Nawab Sir Muhammad Ahmad Ali, Khan Bahadur, K.C.S.I., Pathan; aged 38; has a male heir; salute, 11 guns.

Personal.

24. The health of His Highness the Nawab remained good throughout the year. He visited Mashobra as usual during the hot weather.

The War.

25. The first company of the Imperial Service Sappers remained in Mesopotamia doing excellent work and was over strength throughout the year. The reinforcements sent by the second company at headquarters during the year amounted to 48. The 2nd Company also remained over strength. During the year several honours have been earned by officers and men at the front. His Highness continued to evince a very keen interest in his troops. Donations to various war funds amounted to Rs. 11,200 in addition to one lakh of rupees subscribed towards the Second War Loan. Recruiting operations continued successfully; in fact the final proportion of recruits from Maler Kotla to its total male population is the best among the Punjab Native States.

Crops.

26. Both harvests were good on the whole, but the produce of *barani* lands was below the average and owing to heavy floods during the *kharif* in one part of the State a remission of land revenue had to be granted.

Public Health.

27. Owing to the ravages of influenza deaths reached a total of 2,396 as compared with 466 in the preceding year. There was a large decrease in the number of births.

FARIDKOT.

Area, 642 square miles; population, 130,294; approximate revenue, Rs. 13½ lakhs; army and police, 371; Raja Har Indar Singh, Barar Bans, Jat; aged 4; salute, 11 guns.

Personal.

28. The Faridkot State suffered an irreparable loss by the untimely death from influenza and pneumonia on December 23rd, 1918, of Major His Highness Maharaja Brij Indar Singh, Bahadur, at the age of 22. He was a young ruler of very exceptional promise. He took a keen personal interest in the government of his State and administered it with efficiency and success. He has left two sons, Raja Har Indar Singh and the Kanwar Sahib, aged 4 and 3 years, respectively. On the death of the late Maharaja a temporary Council of Administration was established with the approval of the Punjab Government pending orders on proposals regarding permanent arrangements. The work of the temporary Council has been quite satisfactory.

The War.

29. A second company of Imperial Service Sappers was raised by the Darbar at its own expense, but was subsequently disbanded on the cessation of hostilities. His late Highness held three recruiting Darbars with good results. During the year under report the Darbar supplied 952 recruits for the Indian Army and 423 for their own company. It contributed Rs. one lakh towards the purchase of aeroplanes and invested Rs. two lakhs from the State Treasury in the Second War Loan. The people of the State contributed Rs. 4,27,983 to the Second War Loan. The Imperial Service Troops were detailed to garrison duty in Lahore from 14th October 1918 to 5th April 1919. Their work was highly appreciated by the Commander-in-Chief.

Public Health.

30. The State was visited by plague and influenza and the latter was responsible for a very heavy death roll. Births fell from 4,205 to 3,374.

III.—STATES OF THE JULLUNDUR DIVISION.

KAPURTHALA.

Area, 630 square miles; population, 268,133; approximate revenue, Rs. 31 lakhs (inclusive of about Rs. 16 lakhs income from Oudh States); army and police, 2,416; Lieutenant-Colonel Maharaja Sir Jagatjit Singh, Bahadur, G.C.S.I.,

police, 2,416; Lieutenant-Colonel Maharaja Sir Jagatjit Singh, Bahadur, G.C.S.I. Ahluwalia Sikh; aged 46; has a male heir; salute, 15 guns (including 2 personal); tribute, Rs. 1,31,000.

Personal.

31. The health of His Highness the Maharaja remained good throughout the year. He spent the year in the State, except for a visit to Mussoorie in the hot weather and brief visits to Calcutta and Delhi during the past winter. At Delhi His Highness attended the Chiefs' Conference in January 1919. He has since been on a visit to Europe. In the winter the State was visited by His Excellency the Viceroy and His Honour the Lieutenant-Governor.

The War.

32. In the prosecution of the war the Darbar and its officials have as always displayed readiness to co-operate with the British authorities and have rendered all possible assistance. The number of recruits, who enlisted both for the State Imperial Service Troops and the Indian Army, was nearly 5,000, and the strength of the Imperial Service Infantry was increased from 602 to 1,200. The Darbar granted a life pension to the widows or legitimate heirs of recruits who died on active service. It also adopted the policy of preferential treatment towards relatives of recruits in filling up vacancies in the State. During the year under report the Darbar contributed *inter alia* Rs. 25,000 towards the maintenance of the Hospitalship "Loyalty," and Rs. 25,000 towards the Indian Relief Fund. It also invested Rs. 2,45,000 in the Second Indian War Loan.

Public Health.

33. The epidemic of influenza caused no less than 12,000 deaths, while plague claimed nearly 900 victims.

MANDI.

Area, 1,200 square miles; population, 181,110; approximate revenue, Rs. 7 lakhs; army and police, 360; Raja Jogendra Sen, Rajput Mandal; aged 15; salute, 11 guns; tribute, Rs. 1 lakh.

Personal.

34. His Highness the Raja's health was good throughout the year. He continued his studies at the Aitchison College, Lahore. His progress, both in studies and games, is reported to have been excellent.

The war.

35 The Darbar invested Rs. 50,000 during the year in the Second Indian War Loan. The number of recruits enlisted was 535, as compared with 378 during the previous year.

Administration.

36. The report of the Superintendent on the year's working is a record of steady progress and improvement on the various branches of administration. The forest settlement has resulted in a considerable enhancement of the income of the State. The first block of the new Kacheri buildings was completed and opened for use during the year. The Darbar has under consideration projects for a water-supply for the city of Mandi and a hydro-electric scheme.

SUKET.

Area, 420 square miles; population, 54,928; approximate revenue, Rs. 2½ lakhs; army and police, 78; Raja Sir Bhim Sen, K.C.I.E., Rajput; aged 34; has no male heir; salute, 11 guns; tribute, Rs. 11,000.

Personal.

37. His Highness the Raja spent the year in the State. His health unfortunately was not good and since the year under review ended his life came to a close on the 12th October 1919.

The War.

38. His Highness' offer of 25 mules and Rs. 10,000 towards the expenses of the war was accepted by Government. He contributed Rs. 7,000 towards the Indian Imperial Relief Fund and offered to raise a contingent of 200 men for field service.

IV.—STATES OF THE LAHORE DIVISION.

CHAMBA.

Area, 3,216 square miles; population, 135,873; approximate revenue, Rs. 3,89,000; army and police, 419; Raja Sir Bhure Singh, K.C.S.I., K.C.I.E., Hindu Rajput; has a male heir; aged 49; salute, 11 guns; tribute, Rs. 2,225.

Personal.

39. His Highness' health during the year was only fairly good. He attended the Conference of Ruling Princes and Chiefs at Delhi in January 1919. The high standard of administration continues to be maintained.

PHYSICAL AND POLITICAL GEOGRAPHY.

The War.

40. The Raja offered to raise 500 men for the 2/41st Gurkhas and paid to Government Rs. 53,136 towards their maintenance. He also contributed Rs. 10,000 to the Indian Imperial Relief Fund. On the signing of the armistice between the Allies and Germany he offered a lakh of rupees as a special contribution towards the expenses of the war and credited the amount in the Bank of Bengal in March 1919.

NOTE.—It is with much regret that the death of Raja Sir Bhure Singh, which occurred after the close of the year, on the 21st September 1919, has to be recorded.

V.—STATES OF THE AMBALA DIVISION.

SIRMUR (NAHAN).

Area, 1,108 square miles; population, 138,520; approximate revenue, Rs. 6 lakhs: army and police, 633; Lieutenant-Colonel Maharaja Sir Amar Prakash, K.C.S.I., Rajput; aged 30; has a male heir; salute, 11 guns.

Personal.

41. His Highness the Maharaja paid visits to His Excellency the Viceroy and His Honour the Lieutenant-Governor, Punjab, during his stay in Simla in September 1918. In consequence of his being fully occupied with important work in the State he could not attend the Chiefs' Conference at Delhi. His Honour the Lieutenant-Governor of the Punjab and party paid a formal visit to the State during the year under report. The State continues to be administered with efficiency and success.

The War.

42. The State troops, which were all taken prisoners at the fall of Kut-ul-Amara, returned to Nahan after playing a memorable part in the defence of that place. Lieutenant Mayo of the Imperial Service Sappers was a recipient of the highest military distinction, the Victoria Cross, and Lieutenant Dube, Officer Commanding, State Forces, was awarded the First Class of the Order of British India, with the title of Sardar Bahadur.

KALSIA.

Area, 168 square miles; population, 55,909; approximate revenue, Rs. 2,74,000; army and police, 164; Raja Ravi Sher Singh, Jat, Sandhu Sikh; aged 16; has no male heir.

Personal.

43. The Raja has been in good health and spent the hot weather at Mussoorie. He is doing well at the Aitchison College and appeared in the final examination in April 1919. When the Raja, on completion of his education, returns to the State, a suitable building will be erected for his residence at Chachrauli.

Administration.

44. The State continued to be successfully administered by a Council of Regency which has recently been granted special appellate and revisional powers under the Civil and Criminal Procedure Codes and the Land Revenue and Tenancy Acts. The Lieutenant-Governor paid a formal visit to the State during the year.

The War.

45. A contribution of Rs. 2,000 was made towards the Sir Michael O'Dwyer Memorial Fund for soldiers.

PATAUDI.

Area, 53 square miles; population, 19,543; approximate revenue, 1 lakh; army and police, 77; Nawab Muhammad Iftikhar Ali Khan, Bahadur, Afghan; aged 9 years.

Personal.

46. The Nawab, with his mother the Begum, passed the hot weather at Solon. The State continued to be administered by a Council consisting of two members.

The War.

47. The State contributed Rs. 500 to the Sir Michael O'Dwyer Fund.

LOHARU.

Area, 224 square miles; population, 18,597; approximate revenue, Rs. 1,00,684; army and police, 80; Nawab Sir Amir-ud-din Ahmad Khan Bahadur, K.C.I.E., Mughal; aged 59; has a male heir; salute, 9 guns.

Personal.

48. The Nawab carried on the administration with the help of his son and heir, Nawabzada Mirza Aziz-ud-din Ahmad Khan. He visited Mussoorie, Delhi and Quetta during the year under report. He was invited to the Chiefs' Conference at Delhi as a special case in the capacity of representative of the Minor Chiefs of the Punjab. His third son has completed his studies at the Mayo College, Amjer, and has obtained a diploma.

PHYSICAL AND POLITICAL GEOGRAPHY.

The War.

49. The State contributed a sum of Rs. 250 towards the Sir Michael O'Dwyer Memorial Fund.

DUJANA.

Area, 100 square miles; population, 25,485; approximate revenue, Rs. 77,170; army and police, 122; Nawab Muhammad Khurshaid Ali Khan, Bahadur, Pathan; aged 35; has a male heir; tribute, 50 cavalry on requirement.

Personal.

50. The Nawab lived at Solon during the hot weather and visited Simla for a week.

VI.—STATES UNDER THE POLITICAL CONTROL OF THE SUPERINTENDENT, HILL STATES, SIMLA.

51. The chief particulars of the Simla Hill States are given in the following table :—

No.	State.	Area in square miles, including feudatories.	Population in 1911.	Approximate revenue.	Tribute.	Name of Chief.	Race.	Age.	Title.	Whether male heir or not.	Military forces and police.	REMARKS.
				Rs.	Rs.							
1	Bilaspur ...	448	93,107	3,33,425	8,000	Sir Bijai Chand, K.C.I.E., C.S.I.	Rajput	46	Raja ...	Yes	204	Permanent salute, 11 guns.
2	Bashahr ...	3,820	88,957	1,44,442	3,945	Padam Singh ...	Do.	45	Do. ...	Yes	13	Personal salute, 9 guns.
3	Nalagarh ...	256	49,230	1,57,460	5,000	Jogindar Singh ...	Do.	49	Do. ...	No	48	
4	Keonthal ...	116	25,354	1,00,971	...	Hamendar Sen ...	Do.	14	Do. ...	No	36	
5	Baghal ...	124	26,008	68,976	3,600	Bikram Singh ...	Do.	26	Do. ...	Yes	25	
6	Bhagat ...	36	8,797	50,000	...	Durga Singh ...	Do.	18	Rana ...	No	43	
7	Jubbal ...	288	23,627	1,98,063	2,520	Bhagat Chand ...	Do.	30	Raja ...	Yes	19	
8	Kumharsain ...	90	12,219	30,000	2,000	Vidyadhar Singh ...	Do.	24	Rana ...	No	7	
9	Bhajji ...	96	14,972	33,504	1,440	Bir Pal ...	Do.	13	Do. ...	No	32	
10	Mailog ...	43	8,663	37,783	1,440	Durga Chand ...	Do.	21	Thakur	No	16	
11	Balsan ...	51	6,225	18,500	1,080	Bir Singh ...	Do.	55	Rana ...	No	...	
12	Dhami ...	26	4,484	30,000	360	Hira Singh, C.I.E. ...	Do.	42	Do. ...	Yes	25	
13	Kothar ...	20	4,016	17,000	1,000	Jagjit Chand ...	Do.	32	Do. ...	Yes	8	
14	Kunihar ...	80	2,208	6,000	180	Hardeo Singh ...	Do.	21	Thakur	No	9	
15	Mangal ...	12	1,267	1,000	72	Tilok Singh ...	Do.	68	Rana ...	Yes	...	
16	Bija ...	4	1,064	5,000	124	Puran Chand ...	Do.	23	Thakur	Yes	8	
17	Darkoti ...	8	521	7,000	...	Raghunath Singh ...	Do.	35	Rana ...	Yes	...	
18	Taroch ...	67	4,493	50,000	288	Surat Singh ...	Do.	32	Thakur	Yes	...	
19	Sangri ...	16	3,022	5,715	...	Hira Singh ...	Do.	68	Rai ...	Yes	...	
20	Kaneti ...	19	2,854	8,590	...	Amog Chand ...	Do.	28	Thakur	No	...	Tributaries of
21	Delath ...	42	1,392	2,743	...	Narindar Singh ...	Do.	69	Do.	Yes	...	Bashahr.
22	Koti ...	50	8,265	44,154	...	Raghbir Chand ...	Do.	59	Rana ...	Yes	56	
23	Theog ...	144	6,345	14,591	...	Padam Chand ...	Do.	33	Thakur	Yes	8	
24	Madhan ...	9	3,901	5,500	...	Randhir Chand ...	Do.	32	Do.	No	6	Tributaries of
25	Ghund ...	28	1,887	5,610	...	Ranjit Singh ...	Do.	36	Do.	Yes	...	Keonthal.
26	Ratesh ...	12	472	700	...	Hira Singh ...	Do.	51	Do.	Yes	...	
27	Rawin ...	7	749	4,591	...	Kidar Singh ...	Do.	42	Do.	Yes	..	Tributaries of
28	Dhadi ...	25	244	1,600	..	Dharm Singh ...	Do.	31	Do.	Yes	...	Jubbal.

PHYSICAL AND POLITICAL GEOGRAPHY.

Bilaspur.

52. The administration appears to be working smoothly under the new arrangements mentioned in last year's report.

53. The State has held its position as the best recruiting area in the Simla Hills. Two lakhs were invested in the Second War Loan.

Bashahr.

54. Raja Padam Singh has carried on the administration successfully with the assistance of his Wazir. The *pseudo* Ran Bahadur Singh, mentioned in last year's report, was convicted in the Raja's court and is now serving a term of imprisonment in the Rampur Jail.

55. The Raja's personal efforts to secure recruits among his subjects brought the number for the year almost up to the total of Bilaspur. He invested Rs. 75,000 in the Second War Loan.

Nalagarh.

56. The unrest in the hill *parganas* came to a head in August 1918, when armed resistance was offered by the disaffected to the action of the Raja's forces in arresting certain ringleaders. A *fracas* took place and the Raja telegraphed for assistance. The Political Assistant Commissioner proceeded to Nalagarh with the Superintendent of the Simla Police, and a force of 50 armed constables. When the expedition reached Nalagarh the rebels were demonstrating in force a few miles away. The State supplied a list of ringleaders and a summons was sent to the rebels to surrender the persons named, about 50 in number. As the first summons was ignored for several days a double company of the 12th Pioneers was despatched from Ambala, but before the troops reached Nalagarh the rebels had shown signs of coming in, and finally the ringleaders surrendered without the necessity arising for active operations. The arrested men were taken to Simla and there placed on trial in the Court of the Superintendent, Hill States. The majority were convicted and sentences were passed ranging from transportation for life downwards, but with a recommendation, which was accepted, that, as an act of clemency, Government should commute the sentences of transportation for life to sentences of ten years' imprisonment.

57. The trial and concurrent enquiries showed that there was much to be remedied in the administration of the State. *Inter alia* the proceedings disclosed the need for a revision of the forest settlement and for a regular settlement of the hill *parganas* which has hitherto never been carried out. The effect of the trial appears to have been to quench all embers of disaffection and normal conditions have been restored.

Keonthal.

58. Raja Hamendra Sen was installed on the *gaddi* on the 6th February 1919. The Raja continues to attend the Aitchison College at Lahore.

Baghal.

59. The disaffection in Nalagarh spread into Baghal, but took a much milder form. In September several persons were placed on their trial in the Court of the Political Assistant Commissioner and most of them were convicted. The two ringleaders received sentences of 3 and 2½ years' imprisonment. The disaffection appears to have died a natural death and normal conditions have been re-established.

60. The elder Manswali Rani, whose younger sister's death was reported last year, died a few months after her sister.

61. Tika Surendra Singh was sent to the Boys' Preparatory School attached to the Queen Mary's College in May 1918.

62. On the 23rd January 1919, the Manager of the State, Rai Bahadur Mian Durga Singh, died at his home at Kot Khai while on short leave. He was a member of the family of the Rana of Kot Khai and had an exceptionally long period of service in the Simla Hill States. It has been difficult to find a successor with similar experience and knowledge of the State.

Baghat.

63. Rana Durga Singh was in his last year at the Chiefs' College and the State continue to be administered by his uncle, Rai Sahib Kanwar Amar Singh.

Jubbal.

64. The Raja continued his generous subscriptions to war charities and invested two lakhs in the Second War Loan.

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Kumharsain.

65. The Rana has been acting as Manager of his State since September 1917 and has conducted the administration with success. He exerted himself to secure recruits, and before activities ceased had made a start in what was somewhat unpromising ground.

66. An heir was born to the Rana on the last day of the year, under report, but has since died.

Bhajji.

67. The Council continues to administer the State on somewhat antiquated lines, but the people appear contented. Bhajji is now the only State of any importance which has had no regular settlement.

Mailog.

68. Thakur Durga Chand was installed on the *gaddi* on the 16th January 1919, but the State is still temporarily under management. The present Manager is doing well. A sister of the Chief was married to Rao Krishan Pal Singh, Taluqdar of Awagarh, on March 4th, 1919.

Kuthar.

69. The unrest in Nalagarh and Arki was felt to a lesser degree in Kuthar, but the Chief acted promptly, punished the ringleaders and stamped out the disaffection.

Kunihar.

70. The Chief continues to do well and is consolidating his position.

Beja.

71. The Thakur seems to be making some progress—the present Manager, M. Salig Ram, is doing well.

Darkoti.

72. Thakur Ram Saran Singh died on 24th September 1918 and the succession of his son, Raghunath Singh, has been approved. The installation took place in November 1919.

Taroch.

73. The Thakur of Taroch has invested Rs. 50,000 in the Second War Loan.

Koti.

74. Orders have been passed by Government in the case of the assessment of the Mashobra and Mahasu estates. The lessees will now feel that their position has been assured and ample revenues are at the same time secured to the Chief.

Theog.

75. There was a spasmodic attempt at disturbance on the part of a section of the subjects of the State in the spring of 1917. Enquiries on the spot brought to light no signs of serious mal-administration and the whole matter appeared to be the work of certain persons with whom the Chief had cause to be seriously displeased The Thakur had the position well in hand from the first and was permitted to settle the matter himself.

Madhan.

76. A sale of deodar trees has paid off all the State's debts and given the Thakur a substantial sum in hand.

Ratesh.

77. The Thakur has sent a donation of Rs. 100 to the Imperial Relief Fund.

Ravin

78. The heir-apparent, aged 12 years, died on 30th December 1918 during the influenza epidemic. The Thakur has several other sons.

General.

79. The influenza epidemic of the autumn of 1918 took its toll in the Simla Hill States. The agency of infection was road transport and mortality along the Hindustan-Tibet Road was very high. The Rampur Fair in the beginning of November was also responsible for spreading the epidemic in the inner hills.

FRONTIER AFFAIRS.

80. When the year opened Dera Ghazi Khan was the base of a military force operating against the rebellious Marri and Khetran tribes in the Baluchistan Agency. In May 1918 this force was withdrawn on the successful conclusion of its operations, and the Dera Ghazi Khan frontier soon resumed its normal condition.

81. Some few of the Huddianis, a section of the Laghari tribe, which occupy the territory round about Fort Munro and adjoining the Barkhan Tahsil of the Loralai (Baluchistan) District in which the Khetrans reside, actually joined the Khetran rebellion while others assisted the rebels in their depredations in Punjab territory. These men were tried by the Chiefs' *Jirga* and the leaders received exemplary sentences. A fine of Rs. 4,000 was imposed on the section and has been realized.

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82. The Durkhani section of the Gurchani tribe and the Ghulamani section of the Bozdar tribe were exposed to temptation to join in the rebellion but withstood it. Sirdar Hassan Khan, the *de facto* Chief of the Gurchani tribe, received the title of Khan Bahadur in recognition of the good work done by him in this connection, and both he and Sirdar Paind Khan—who at the time in question was acting Chief of the Bozdar tribe—received a *Khillat* of Rs. 500 from His Honour the Lieutenant-Governor at the Darbar held at Multan on 30th January 1919. On the same occasion the leading Mukaddams of the above-mentioned sections of the Gurchani and Bozdar tribes also received *Khillats*.

83. The Chiefs' *Jirgas* held at Fort Munro in the summer of 1918 and at Dera Ghazi Khan in the spring of 1919 had very heavy work and got through it in the usual satisfactory way under the experienced and able guidance of the Hon'ble Nawab Sir Behram Khan, Mazari, K.C.I.E.

84. In March 1919 Sardar Ghulam Haider Khan, the titular Chief of the Gurchani tribe, was formally installed as Tumandar, but for sometime to come at any rate the management of the tribe must remain in the hands of his uncle, Khan Bahadur Sardar Hasan Khan.

85. Sardar Muhammad Hussain Khan, Chief of the Bozdar tribe, died on 18th December 1918, and was succeeded by his son, Paind Khan, who for some years has been acting as Chief. Sardar Paind Khan was formally installed in March 1919.

86. Sardar Hamidullah Khan, son of Sirdar Ghulam Haider Khan and nephew of the Mazari Nawab, who had enlisted as a sepoy in the Punjab University Company in March 1917 and was subsequently transferred as an Indian Officer to the 3/124th Baluchistan Infantry, was selected for a temporary King's Commission during the year.

87. The population under the political control of the Punjab Government suffered severely from influenza, and was much affected by the prevailing scarcity and high prices, especially when the Baluchistan authorities stopped the export of grain from the Barkhan Tahsil whence these people had been accustomed from time immemorial to obtain their supplies. After some correspondence with the Baluchistan authorities the export of a limited amount of grain was allowed for the hill population, subject to certain restrictions; in addition *taccavi* to the extent of Rs. 2,500 was distributed to the hill tribes. These measures and the very large purchases of camels, sheep and goats made by Pathan traders this year have enabled the tribesmen to subsist without having resort to theft or raiding to any unusual extent.

9.—Condition of the People.

88. Though plague showed signs of renewed vigour, malaria was much less conspicuous than usual, and the period under review would have been unusually good from the health aspect had it not been for the virulent and widespread epidemic of influenza which raged throughout the Province and resulted in a loss of about three-quarters of a million lives. The birth rate fell from 45·3 to 39·6 *per mille* or 5·6 less than the quinquennial average. The decline may be ascribed partly to the severe outbreak of malarial fever in the late autumn of 1917 and partly to the heavy mortality from influenza among women of child-bearing age. Deaths exceeded births by no less than 41·4 *per mille*, the death rate reaching the record figure of 81 *per mille* for which the influenza scourge is entirely responsible.

89. The spring harvest of 1918 was good, and though the autumn crops proved a failure any deficiency of yield was more than counterbalanced by higher prices. There was a marked and general increase in the price of all staple articles, due in the main to the world-wide conditions resulting from the war. In these circumstances the prosperity of the agricultural classes was fully maintained while the strong demand for labour of all kinds led to substantial increases in wages. Conditions favoured the commercial classes and the only sufferers were those on regular salaries or with fixed incomes.

CHAPTER II.

ADMINISTRATION OF THE LAND.

Detailed information on the subjects dealt with in this Chapter will be found in the reports and statistical tables noted below :—

PROVINCIAL REPORTS.

Realization of the Revenue— Revenue Surveys and Settlements—	Report on the Land Revenue Administration of the Punjab for the year ending 30th September 1918.

Professional Surveys.—General Report on the Operations of the Survey of India for the year ending 30th September 1918.

Waste Lands and Government Estates.	1. Annual Report on the Punjab Colonies for the year ending 30th September 1918. 2. Report on the Land Revenue Administration of the Punjab for the year ending 30th September 1918.

Wards' Estates.—Report on the Administration of Estates under the Court of Wards in the Punjab for the year ending 30th September 1918.

Revenue and rent-paying classes.—Report on the Land Revenue Administration of the Punjab for the year ending 30th September 1918.

PUBLICATIONS OF THE GOVERNMENT OF INDIA.

Agricultural Statistics of India, Volume I.

Area Totals—Table 1 J. Classification of Area—Table 2 I. Incidence of Land Revenue—Table 5 I.	Transfers of Land—Table 6 H. Changes in Boundaries—Appendix B.

10.—Realization of the Revenue.

FIXED LAND REVENUE.

Demand and Collection.

90. The fixed land revenue demand rose from Rs 231·52 to Rs. 235·07 lakhs, mainly owing to newly-revised and progressive assessments. Of this 98·4 per cent. was collected, the balance outstanding at the close of the year, apart from amounts remaining under suspension or written off as irrecoverable, being Rs. 18,000. As both harvests were satisfactory the amount of revenue suspended during the year was only Rs. 2·30 lakhs and had it not been for excessive rainfall over certain areas this small sum would have been materially reduced. In the Gurgaon District alone, in addition to a remission of Rs. 19,000, floods necessitated suspensions totalling Rs. 1·75 lakhs. Rohtak and Gurdaspur were the only other districts where any substantial relief in the way of suspensions was required and the total sum under suspension at the close of the year did not exceed Rs. 4·66 lakhs, to which amount the three districts mentioned were the chief contributors.

Riverain action.

91. Owing to the heavy floods alluvion and diluvion operations resulted in a net loss of Rs. 22,200 in the fixed land revenue roll, the total assessable area of the province being reduced by 21,395 acres. The United Provinces lost, however, to Karnal two whole villages and part of a third, the total area comprising 3,063 acres. The revenue was enhanced on 12,294 acres on account of the improvement of areas recovered from rivers in previous years, while a reduction was made in respect of 8,419 acres which had deteriorated owing to river action.

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Demand and Collection.

Fluctuating Land Revenue.

92. Collections of fluctuating land revenue amounted to Rs. 144·26 lakhs, or nearly 6 lakhs above the total of the previous year. Most of the increase is accounted for by the development of canal irrigation in the new colonies and by the efforts made to extend the area under foodstuffs, but good rain in dry tracts such as Mianwali and Hissar also contributed appreciably to the improvement. The outstanding balance of fluctuating revenue at the close of the year was only Rs. 30,500.

Other Land Revenue.

Rents and Sales.

93. Collections of other land revenue show a net increase from Rs. 40·33 to Rs. 46·53 lakhs. Rents of lands leased out for temporary cultivation brought in an extra sum of Rs. 1·40 lakhs, while sales of Government estates and sales of Government waste lands surpassed the figures of the previous year by Rs. 1 lakh and Rs 4·31 lakhs, respectively

Miscellaneous.

Coercive processes.

94. There has been a further fall in the number of coercive processes the total of 11,434 comparing favourably with last year's figures of 12,430. Of the arrears amounting to Rs. 10·87 lakhs, 91·7 per cent. were recovered. The number of coercive processes issued on behalf of lambardars decreased by 15 per cent., while those issued against lambardars increased by 12 per cent. In connection with the processes issued there were only four cases of imprisonment and none in which direct management of land was undertaken or distress or sale of immoveable property ordered. In the Lyallpur District an increase in the number of processes is ascribed to the reluctance of zamindars to realize their grain in the expectation of rising prices, while in the Lahore District lambardars are said to have been chary of appearing during the stress of recruiting. As usual the Multan Division called for the greatest measure of coercion.

Postal process service.

95. The system of serving revenue processes through the post has continued to be utilized and has met with varying degrees of success in different districts. The reports from Ambala and Dera Ghazi Khan indicate that this method, like that which it replaces, is liable to failure when the addressee is determined to evade service. Only in Karnal has the system so far realised the expectation that its adoption would lead to substantial reductions in the establishments of tahsil peons; in fact in Gujranwala it was recently found necessary to sanction the temporary re-entertainment of twenty peons whose services had been dispensed with in the preceding year. On the whole, however, the system of service through the post seems likely to yield satisfactory results.

Methods of payment.

96. The practice of remitting land revenue by money order is steadily gaining in popularity and nearly 18 lakhs were thus paid during the year, as compared with 15 lakhs the previous year. No fewer than twenty-three districts availed themselves of the system which is obviously convenient to those who live at a distance from tahsil headquarters or have only small sums to remit. More than three and-a-half lakhs of revenue were paid by currency notes remitted through the post. In some districts such as Gujranwala, the lambardar has discovered that for sums exceeding Rs. 15 remittances of currency notes are cheaper than remittances by money order. Notes are not always, however, readily available in the villages and this form of remittance is in some parts distrusted by the people as likely to be attended with a certain amount of risk. The lambardars of Lyallpur were able to profit by the fact that currency notes were offered in the bazar at a discount, with the result that the whole of the large *rabi* instalment of land revenue found its way to the treasury in notes.

11.—Professional Surveys.

Surveys.

97. Riverain surveys were carried out by the Punjab Riverain Detachment of the Survey Department on the Indus, Ravi and Sutlej rivers in connection with the Dera Ghazi Khan and Multan Settlements. 440 linear and 706 square miles of main circuits and 3,904 linear and 762 square miles of minor traverses were run and 780 theodolite stations of the former and 16,282 of the latter were fixed in the area under river action. Corners of 173 squares in 1,181 square miles were demarcated with permanent mark stones on both banks of the Indus and the Ravi to serve as bases for the future survey demarcation of boundaries and fields in the beds of the rivers. 2,935 plotted and 816 boundary mapping large scale sheets and 40 four-inch sheets were traced and supplied to the Settlement Officers. Besides these 377 miscellaneous traces were prepared and all the traverse stations marked during the year were plotted on 58 four-inch sheets. Some of the Kangra computation volumes were completed. The total expenditure of the detachment during the year was Rs. 1,09,132.

98. Topographical survey operations were continued under No. 1 Party (Northern Circle) of the Survey of India which surveyed an area of 1,525 square miles on the scale of 1 inch = 1 mile in the Hoshiarpur, Jullundur and Kangra Districts and Chamba and Simla Hill States. This party also surveyed 61 square miles on the scale of 3 inches = 1 mile for the Artillery Practice Camp near Hoshiarpur. Triangulation operations for laying out on the ground the temporary marks from which the actual corners of rectangles will be fixed in connection with the Sind-Sagar Canal and Colonization Project in the Punjab were begun and completed during the year by the Sind-Sagar Party of the Northern Circle, Survey of India. The area triangulated was approximately 7,430 square miles in Mianwali, Shahpur, Muzaffargarh and Jhang Districts, with a view to the location of the corners of 4,000-acre rectangles to be undertaken next season. To assist this party in its work a new series of triangles extending from Sananwan in Muzaffargarh District to Hadali in the Shahpur District was laid out, built and observed by the Survey Department and observations were also completed at all stations built in the preceding year.

Boundary delimitation.

99. There was no important alteration in district boundaries during the year. There is some disagreement between the local officers and the State officials in regard to the location of 2 or 3 pillars on the boundary line between Sialkot and the Jammu State, and the matter is now before the Settlement Commissioner of the Jammu State. It is hoped that the question will be finally settled and the new pillars erected at an early date. Some disputes exist as to the correct position of the fixed boundary laid down some years ago between the Bahawalpur State and the Multan District owing to inaccuracies in the two sets of maps in which it was incorporated. The Settlement Officer of the district and the Director of Land Records of the Bahawalpur State drew up a scheme for the settlement of outstanding disputes and the demarcation of the disputed lines during the cold weather of 1918-19. A boundary difficulty between the Karnal District and the Jind State was decided and the boundaries between the Kangra District in the Beas and Chakki riverain and the Hoshiarpur and Gurdaspur Districts were laid down during the year. The draft bill for the compulsory demarcation of a fixed provincial boundary on the Jumna was still under the consideration of the Governments concerned.

12.—Revenue Surveys and Settlements.

Settlements commenced and in progress.

100. There were four settlements in progress during the year. In the Kangra and Ambala districts remeasurement, map correction and record work were completed and operations in the Rupar and Kharar tahsils of the latter district were brought to a close during the year. In the Multan district work was commenced in the Kabirwala and Mailsi tahsils. In connection with the Sind Sagar Canal Colonization Project a

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beginning was made with triangulation operations carried out by a party of the Northern Circle, Survey of India, and an area of about 7,430 square miles was triangulated as a preliminary to the location of the corners of the 4,000-acre blocks into which the tract will be divided.

Final Settlement Reports.

101. During the year the orders of Government were issuedin regard to the final settlement reports of the Sialkot, Jullundur and Simla districts. In the canal-irrigated tract of Sialkot, where the conditions have not yet reached stability, the term of the settlement has been fixed for 10 years, while for the remainder of the district not affected by the Upper Chenab Canal the term is 30 years. A similar term has been applied to Jullundur and Simla.

Settlements completed.

102. No settlements were completed during the year. The assessment reports of the Ambala, Naraingarh, Sangarh and Dera Ghazi Khan Tahsils were, however, received and orders passed on all, except the last.

Resettlements.

103. Forecast reports of the Montgomery District for the Sutlej Tahsils and the portion of the Ravi Tahsils outside the colony area, and of Sirsa Tahsil of the Hissar district were under examination during the year, but for various reasons it was decided to postpone resettlement in the Sutlej Tahsils and in Sirsa Tahsil until October 1919, and in the case of the Ravi Tahsils for another five years.

13.—Land Records.

Patwaris.

104. The conduct and efficiency of patwaris is generally reported to have been satisfactory and the number of dismissals fell from 111 last year to 77, while the number of other punishments fell from 2,531 to 2,510. Much extra work was thrown on patwaris by recruiting and war loan activities and several district reports acknowledge the help they gave in these operations. The good work of patwaris was rewarded by promotion to 64 superior posts, as compared with 36 in the previous year, while a number of other patwaris officiated in such posts. The rules regarding the grant of transit pay and travelling allowance of patwaris have been made more liberal during the year; war allowances were also granted to them, while the question of increasing their pay and gratuity on retirement is under consideration. The question of providing or renting patwarkhanas in circles where none at present exist is also being examined.

Kanungos

105. A new redraft of Standing Order No. 19 was issued during the year in which the rules regarding the appointment of Kanungos and the amalgamation of the district and the settlement staff were clearly defined. The question of the enhancement of the pay of kanungos is under consideration. The rule requiring that a kanungo should draw Rs. 20 and not Rs. 25 per mensem for the first year of his appointment was abolished during the year under report, while the recent appointment of a special Naib Sadr Kanungo in each district (except Simla), in order to render revenue records more accessible to Civil Courts, constitutes a material improvement in the prospects of kanungos generally. Kanungos on the district staff were promoted to other superior posts in 13 cases during the year, as against 5 in the previous year. It is satisfactory to note that in spite of increased duties due to recruiting, war loan and investigation into petitions received from soldiers on active service, the revenue work of Kanungos was generally kept up to date, while no deterioration in its standard is reported. As was the case last year that standard is considered to be satisfactory, except in a few districts.

Records.

106. During the year Settlement record remeasurement and map correction work was completed in the Kangra and Ambala Districts and was completed or well advanced in each of the four tahsils of the Dera Ghazi Khan District. The revision of the record began in Kabirwala and Mailsi Tahsils of the Multan District in October 1917, and satisfactory progress was made during the year.

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107. The scheme of appointing a special kanungo to attend Civil Courts with revenue records and to prepare excerpts, where necessary, has been extended to most districts. The scheme is as yet of a tentative nature and will be fully examined shortly in the light of the experience of its first year's working on an extended scale.

14.—Waste Land and Government Estates.

Lower Jhelum Colony.

108. Agricultural conditions during the year were favourable on the Lower Jhelum Canal, one effect of which was seen in the good condition of the young stock. There was an increase in the number of sales by horse-breeders from 238 to 399. Although the importance of maintaining service conditions and ensuring the success of the horse-breeding scheme must remain a bar to the acquisition of proprietary rights, an appreciable advance has now been sanctioned in the devolution of administrative control. The recent establishment in certain selected zails of *panchayats*, which are intended to relieve the district staff of many duties connected with the local management, is one of the steps in that direction. The transfer to the district board of *darakhtpal* (arboricultural) grants that have been resumed for breaches of conditions will also result in direct management of the plantations by representatives of the community for whose benefit they exist.

109. The needs of the market towns in the Lower Jhelum Colony are being liberally financed by Government and annual grants equal to half the new land revenue assessment in each case have recently been made to them for a period of ten years. The whole cost of these grants will be borne by provincial revenues.

110. Fines amounting to Rs. 4,855 were imposed on 69 grantees and one-half of the grants of five grantees was confiscated temporarily and leased to other good horse-breeders. This expedient is likely to prove satisfactory and may render permanent confiscation unnecessary.

Lower Bari Doab Canal.

111. Total cultivation on the Lower Bari Doab Canal shows an increase of 27 per cent. on the previous year and amounted to 540,757 acres, nearly one-third of which was, however, on lands temporarily allotted. The remarkable extension of American cotton continues to be a gratifying feature, and there is good reason to think that this Colony will attain the same reputation for cotton as the Lower Chenab enjoys in the wheat markets.

112. The postponement of the Military reward grants and of that portion of the horse-breeding scheme which contemplates the distribution of official rectangles to peasant grantees, including soldiers, has again retarded the development of the Colony. The difficulty in regard to the shortage of land suitable for Military grantees is less acute than had at one time been feared. It is possible that the experiments inaugurated for the reclamation of inferior soils may ultimately add large tracts of commanded land to those immediately available for allotment, but it would be premature to count upon any such result at the present stage. The needs of the Colony have not been neglected by Government and at a recent visit to Montgomery and some of the new Colony Towns the Lieutenant-Governor was pleased to find substantial progress within the last two years, and a general spirit of optimism as to the great future before the Colony.

113. Good progress has been made in the construction of roads financed by Government, which has recently promised a contribution towards the metalling of the Montgomery-Pakpattan Road. The progress made, both by the district board and the Irrigation Department, in arboriculture is on the whole disappointing. Government is prepared to assist the district board in the starting of new dispensaries, the serious need of which has been evinced by the heavy mortality from malaria, plague and influenza.

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It is only fair to say that the provision of travelling dispensaries was contemplated by the district boards of Multan and Montgomery as far back as 1916, but was prevented by the drain on personnel caused by the war. Well sinking is hampered by the lack of coal and the dearth of contractors, but these difficulties are being lightened since hostilities ceased.

114. Building in towns and markets has been retarded by the scarcity of labour and materials, but progress has been made in the Khanewal, Mian Channun and Chichawatni Mandis. Proposals have reached Government for the constitution of notified areas at Mian Channun and Khanewal, and as soon as the necessary machinery can be established, the rate of development should be increased.

Upper Chenab Canal Colony.

115. Some progress appears to have been made in inducing the colonists to build houses and sink wells in the village sites. This matter of well construction entirely overshadows in importance all other questions connected with this small Colony and the Standing Orders have recently been amended by a clause laying emphasis upon the desirability of a system of peripatetic distribution of *taccavi*, with oral application and disbursement on the spot, for tracts on which it is desirable to encourage such an agricultural improvement. The important question of the Colony's communications need urgent attention, and there should be no difficulty in utilising the Government grant for this purpose. It remains to be seen how far the Colony will benefit by the activities of the Agricultural Department, when the establishment of the rice farm at Kala Shah Kaku enables the department to bestow on the cultivation of this crop the attention which it has already so successfully exercised on wheat and cotton.

116. The Deputy Commissioner describes the Lyallpur portion of the Upper Chenab Colony as a congeries of holdings rather than a colony and the wise policy is being adopted of endeavouring to attract to it settlers of good peasant classes from the Lower Chenab Colony. The tract suffered an unfortunate loss in the damage caused to the American cotton crop by excessive rainfall.

117. It is interesting to note that the colonists on the Upper Chenab Colony are proposing with the help of *taccavi* advances to make their own brick kilns and to turn out bricks at two-thirds of the price charged in the neighbouring towns.

Upper Jhelum Canal Colony.

118. Neither harvest in this colony was good and the proportion of failed area was high. Satisfactory progress is being made in arboriculture and the improvement of communications, while sites in the market town of Baha-ud-din have been auctioned and construction is expected to begin in the near future. Among other signs of the prosperity of this little colony is the keenness which is reported to be displayed in obtaining temporary leases, the grant of which on a fairly large scale is now rendered possible by the completion of irrigation arrangements.

15—Wards' Estates.

119. The number of estates under the superintendence of the Court of Wards fell during the 12 months from 41 to 40, three estates having been released and two new ones brought under management. Among those released the Ramgarh estate had been under the Court of Wards for nearly 21 years during the Ward's minority. Debts amounting to Rs. 15,240 were discharged during this period and the ward on attaining

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majority has been started upon his career with cash and securities amounting to nearly Rs. 15,000 in addition to an unencumbered estate greatly enhanced in value. During the year Rs. 5,62,953 were invested in Government securities compared with Rs. 5,22,673 in the preceding year. The largest investment in the War Loan was made by the Mamdot estate which added Rs. 2,63,000 to the 2 lakhs invested by it in the earlier loan. Substantial sums were also invested by the Guru Har Sahai, Kot Fateh Khan and Luddan estates. Owing to the large sums invested in the War Loan purchases of landed property were, as in the previous 12 months, of small account. Debts were repaid to the extent of Rs. 5,29,861, compared with an average of Rs. 2,14,114 in the three preceding years and the total liabilities at the end of the year amounted to Rs. 9,84,603 or less than 3 per cent. of the total assests which were estimated at Rs. 3,75,74,281. These figures include those estates which were released during the year. The careful management of the Court of Wards is shown by the fact that the liabilities of all the estates now under its charge have been reduced by Rs. 21¾ lakhs since they came under its superintendence, while the total cost of management, though varying in different estates, is on the whole only 10 per cent. of the total income. Meanwhile the balance of assets over liabilities has increased by Rs. 107 lakhs. Expenditure on permanent improvements has decreased from Rs. 1,42,201 to Rs. 1,08,716, nearly three-quarters of which is accounted for by the Mamdot and Kot Fateh Khan estates. The improvements made by these estates were of a miscellaneous character, but the arboricultural operations of the Mamdot estate deserve special notice. A sum of Rs. 12,389 was spent on these operations during the year and 21 miles of road were planted with *kikar* trees. This outlay will undoubtedly bring in a substantial return in the course of time. Great importance is attached to the agricultural training of wards and in addition to those who went through the vernacular course at the Lyallpur College in the previous year two more wards have undergone training during the year under report. The education of wards has progressed satisfactorily and more attention is being paid to their supervision during their holidays. The work done by several wards in the interests of recruiting and other war work is an encouraging feature.

16—Revenue and Rent-paying Classes.

General.

120. The total area of the Province as entered in the revenue records is now somewhat over 56¼ million acres. Of this nearly 34½ million acres are owned by agricultural tribes, 5¼ million acres by others, while rather over 16½ million acres consist of common lands, village sites and Government property. There has been a gross increase of a little over one-and-a-half million acres compared with the figures of last year and a rise exceeding three-quarters of a million acres in the cultivated area. The chief factors affecting the former are correct measurements of waste areas of *shamilat* and Government estates in the course of *killabandi* operations in the Montgomery Colony and also in the Gujrat District; to remeasurement in the Kangra District; and to the large area transferred from the United Provinces to Karnal by alluvion. The improvement in the cultivated area is due to good rainfall, to the efforts made to increase the area under food-grains and to the extension of canal irrigation. The cultivated area under mortgage shows a slight decrease as compared with last year and the percentage of this to the total cultivated area is now accordingly reduced from 11·5 to 10·9.

Loans under the Land Improvement Loans Act, XIX of 1883.

121. As compared with last year the amount advanced for land improvements decreased from 1·4 lakhs to rather less than Rs. 77,000. Except for the construction of embankments in a few districts, loans under this Act were taken solely for the purpose of sinking wells. A number of causes, however, restricted progress in this direction. Some of these causes were purely local, for example the floods in parts of Gurgaon,

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the extension of canal irrigation in Gujrat, and the effect of settlement operations in Jullundur and Dera Ghazi Khan. In general, too, the prevalent high prices of material and labour naturally tended to check development. It seems clear, however, that while wells are required, the people themselves are able to an increasing extent to finance the work without the help of *taccavi*. The war has in many respects increased their resources, and remittances received from soldiers were, to a large extent utilised on land improvements. In addition, with the spread of co-operative enterprise, there is a tendency to resort for assistance to the local societies rather than to Government. Efforts have, however, been made to simplify the procedure for loans under this Act. Applications will now be received and disbursements made by officers on tour, and it is hoped, that these arrangements will further assist the objects of the Act.

Loans under the Agriculturists Loans Act XII of 1884.

122. The amount advanced under this Act rose from 1·5 to 3·1 lakhs. In seven districts no advances were made and in only six districts did the advances exceed Rs. 10,000 each. In Gurgaon Rs. 87,000 were advanced, as relief was required for sufferers from floods. In other districts measures for extending the cultivation of food grains helped to stimulate the demand. In the remote Spiti tract *taccavi* proved valuable in relieving distress caused through the failure of the local harvest in 1917 and the loss of animals due to the early fall of snow in the autumn of the same year.

Transfers.

123. The cultivated area (ownership) sold during the year was 100,650 acres, or about 6,500 acres less than in the previous year. This is the lowest figure for 22 years. Sales of uncultivated land (ownership) have also fallen from 112,314 to 71,803 acres. Muzaffargarh was again the district in which the largest area was sold, but even in that district the area sold, owing, it is reported, to the prevailing financial stringency, bad seasons, and possibly also to feelings of uneasiness in regard to the war, was considerably less than last year. In Mianwali a large area of *shamilat* land of very poor quality was sold owing to the extension of gram cultivation. The total cultivated area (ownership) redeemed during the year was 200,855 acres against 187,407 acres last year and the mortgage debt discharged amounted Rs. 1,77,00,000, as compared with Rs. 1,45,00,000. Progress in redemption is marked in the districts of the Ambala Division and is ascribed to a good *rabi* harvest, to the high prices of produce and to remittances from men in the Army. The reasons for the progressive decrease in the area redeemed during the past years have formed the subject of an enquiry and a report on the subject will be submitted shortly. There has been a considerable drop in the number of cases instituted under the Redemption of Mortgages Act (from 2,932 cases last year to 2,464 cases in this year), but notwithstanding this the Act is said to be appreciated. The cultivated area (ownership) mortgaged during the year was 199,779 acres as against 219,812 acres last year. During the previous year mortgages had exceeded redemptions by 32,000 acres, so that the small gain of 1,000 acres this year must be regarded as satisfactory. The area transferred by gifts has also fallen from 86,000 to 75,000 acres, these gifts, as usual, being mainly alienations for religious and charitable purposes or transfers to relations. The area affected by exchanges amounted to 31,600 acres as compared with 43,000 acres and the transactions as a rule had in view the consolidation of holdings.

Value of land.

124. The average recorded price of cultivated land has again risen, the price for 1917-18 averaging Rs. 252 per acre, as compared with Rs. 227 for 1916-17. The rise continues to be almost general throughout the province, and, as remarked last year, it is due to the general rise in prices of agricultural produce, though the movement has also been assisted by the large sums of money available from remittances sent by men serving in the Army. The few districts which exceptionally report a fall in the

ADMINISTRATION OF THE LAND.

price of land attribute the decline variously to diminishing popularity of land as an investment for money, to the war loan, to the sale of land of inferior quality as in the Mianwali Thal, and to the sale of holdings in colonised areas to Government tenants at rates much below the real market value. The sale price for the province as a whole this year represents no less than 171 years' purchase of the land revenue assessed as against 157 years' last year. The mortgage value of land, the ownership of which was mortgaged during the year, was Rs. 329·86 lakhs and represents 91 times the land revenue assessment of the land as against 85 times in the previous year. The average mortgage money per acre on the whole area mortgaged was Rs. 140 as compared with Rs. 106 last year.

Land Alienation Act.

125. No new tribe was notified under the Land Alienation Act during the year. Agricultural tribes gained by purchase a net increase of 9,000 acres as compared with of 21,000 acres in the year preceding. The net loss to agricultural tribes in cultivated and uncultivated land by mortgage and redemption taken together was 28,000 acres against 45,000 acres last year. Sales by agricultural tribesmen have again fallen from 183,000 to 146,000 acres, nd sales to them have fallen from 203,000 to 155,000 acres, while sales to others show a decrease from 38,000 to 34,000 acres, a further improvement in last year's record figures. A few districts report the detection of cases of *benami* transactions, which were all set aside. These transactions, however, appear to be on the decrease.

Rent-paying Classe

126. The numbers of suits brought for enhancement of rent (1,035) and of successful suits of that class (920) continue to decrease. Suits for reduction of rent, however, rose from 13 to 28.

127. There were 111 decrees for ejectment of occupancy tenants under section 39 of the Tenancy Act as against 120 last year. The total number of ejectments of occupancy tenants actually carried out during the year was only 48, as compared with 131 the previous year. There has been a large decrease in the total number of applications for service of notice of ejectment and of notices of ejectment of tenants-at-will, and in consequence the ejectments only total 3,992 against 6,592 last year. The lowness of the figures are not improbably due in some measure at least to a scarcity of tenants owing to the large enlistments in the Army.

MISCELLANEOUS.

Punjab Land Preservation (Chos) Act.

128. Proposals for extending operations under the Chos Act in Ambala and Hoshiarpur Districts were called for. A sum of Rs. 1,50,000 was entered in the schedule of new expenditure for the financial year 1919-20 to meet the cost of these extensions and proposals for the assessment and payment of compensation for restrictions under section 5 of the Chos Act in the Rupar and Kharar Tahsils, which are estimated to cost approximately Rs. 1,28,000, are now under consideration. It is also proposed that a forest officer should be put on special duty to report in consultation with the local officers on the whole question of remedial measures against Cho action in the Morni *ilaqa* and in the hills and plains of the Naraingarh, Jagadhri and Ambala Tahsils. A grant of Rs. 2,000 was placed at the disposal of the Deputy Commissioner, Ambala, for the reclamation and training of Cho beds in the district. In Hoshiarpur experiments on a fairly large scale were made in the Maili Cho with a view to confining the Cho water to its proper course. These experiments were carried out by the zamindars themselves acting under directions, and they have proved most valuable. The afforestation of the Siwaliks in that district is proceeding satisfactorily. Shisham and bamboos have been sown to some extent while the grass crop was abundant. Grazing of camels is now permanently prohibited in the Hoshiarpur

Siwaliks and Rs. 3,488 were paid during the year as compensation on this account.

The Descent of Jagirs Act.

129. Four Jagirs—two held by members of the Bhai family in the Lahore District and two by members of the Mandal family in the Karnal District—were notified during the year under the Descent of Jagirs Act. This brings the total number of jagirs notified under the Act to 149.

CHAPTER III.

PROTECTION.

Detailed information on the subjects dealt with in this chapter will be found in the reports and statistical tables noted below:—

PROVINCIAL REPORTS.

Police.—(1) Report on the Police Administration of the Punjab for the year 1918.

(2) Report on the working of the Criminal Tribes Act for the year 1918.

(3) Report of the Chemical Examiner to Government, Punjab, for the year 1918.

Criminal Justice.—Report on the Administration of Criminal Justice in the Punjab and its Dependencies during the year 1918.

Prisons.—Report on the Administration of the Jails in the Punjab, 1918.

Civil Justice.—Report on the Administration of Civil Justice in the Punjab and its Dependencies during the year 1918.

Registration.—Report on the Administration of the Registration Department of the Punjab for the year 1918.

Legal affairs of Government.—Report on the Administration of Legal Affairs of the Government of the Punjab for the year 1918.

Local Boards Administration.—Report on the Administration and Accounts of the District Boards in the Punjab for the year 1918-19.

Municipal Administration.—Report on the working of Municipalties in the Punjab during the year 1918-19.

PUBLICATIONS OF THE GOVERNMENT OF INDIA.

Statistical Abstract for British India, Volume IV, Administrative and Judicial (including area, population and local funds).

17.—Legislating authority during the year 1918-19.

130. The following changes took place amongst the members of the Council:—

(1) The Hon'ble Mr. D. W. Aikman, C.I.E., was nominated in place of the Hon'ble Mr. W. F. Holmes, resigned.

(2) The Hon'ble Captain Sardar Gopal Singh was nominated in place of the Hon'ble Sardar Bahadur Risaldar Partab Singh, resigned.

(3) The Hon'ble Mr. T. P. Ellis, I.C.S., was nominated in place of the Hon'ble Mr. S. W. Gracey, deceased.

(4) The Hon'ble Mr. Lewis French, C.I.E., I.C.S., was nominated in place of the Hon'ble Mr. J. P. Thompson, resigned. The latter was subsequently re-nominated in place of the Hon'ble Mr. Craik who had resigned on leaving the Province.

(5) The Hon'ble Colonel MacWatt was nominated in place of the Hon'ble Colonel Hendley, resigned.

(6) The Hon'ble Mr. F. W. Woods was nominated in place of Mr. D. W. Aikman, resigned.

(7) The Hon'ble Mr. F. C. Waller was elected by the Punjab Chamber of Commerce as a member *vice* the Hon'ble Mr. James Currie, deceased.

18.—Course of Legislation during the year 1918-19.

131. Twelve meetings of the Legislative Council were held during the year under report at the Government House, Lahore (24th, 25th and 26th April 1918, 4th May 1918, 20th and 21st November 1918, 7th December 1918, 6th and 7th February 1919, 7th, 13th and 14th March 1919). **Meetings.**

Bills introduced.

132. The following Bills were introduced in Council during the year :—

(1) Punjab Courts Act Amendment and Validation Bill.
(2) Punjab Compulsory Education Bill.
(3) Punjab Adulteration of Food Bill.
(4) Punjab Municipal Act Amendment Bill (No. 5 of 1919).
(5) Punjab District Boards Amendment Bill.
(6) Simla House Accommodation Act Amendment Bill.
(7) Punjab District Boards Act Amendment Bill (Registration of Marriages).
(8) Bill to amend the Punjab Courts Act, VI of 1918.
(9) Punjab Custom (Power to contest) Bill.

The first eight were passed while No. 9 is yet pending.

Bills passed.

133. The following Bills which were pending at the close of the year were passed during the year under report :—

(1) Punjab Juvenile Smoking Bill.
(2) Punjab Small Town's Patrol Bill.

Resolutions.

134. In addition to 18 Resolutions on the Constitutional Reforms the following Resolutions were moved :—

(1) Resolution *re* the grant of Grain Compensation Allowance.
(2) Resolution of Loyal Congratulations to His Majesty the King-Emperor on final victory.
(3) Resolution of sympathy to Their Imperial Majesties the King-Emperor and Queen Empress on the death of their youngest son, Prince John of Windsor.
(4) Resolution *re* the meeting of no less than three-fourths of Educational Expenditure of local bodies from Provincial revenues.
(5) Resolution *re* the meeting of three-fourths of Sanitary expenditure from Provincial Revenues.
(6) Resolution *re* the budgetting of rupees five lacs more for Heads 24-B.—Sanitation Expenditure and effecting a corresponding decrease under the Heads 10, 11, 32 or 45.
(7) Resolution *re* budgetting ten lacs more for Head 22—Education Expenditure and effecting a corresponding decrease under Heads 10, 11, 32 or 45.
(8) Resolution *re* budgetting rupees two lacs more for 26—B. Expenditure and effecting a corresponding decrease under Head 32 or 45.

Nos. (2) and (3) were carried. Nos. (4), (6) and (7) were lost and Nos. (5) and (8) were withdrawn. No. 1 was deferred in order that the matter might be considered by a Small Committee.

Questions.

135. Two hundred and thirty-four questions were put and answered.

India Acts.

136. One Act particularly affecting the Punjab was passed by the Imperial Legislative Council during the year. This supplemented the Punjab Courts Act of 1918.

19.—Police.

General Police Force.

General.

137. The number of true cognizable offences of all kinds dealt with by the Police in 1918 was more by 166 or a half per cent. than in the previous year in which a reduction of 13·8 per cent. was shown. Excluding petty offences under local and special laws, there were 25,605 true cases as against 24,279 in the previous year—an increase of 5½ per cent. on the figures of 1917.

138. The feature of the curve of provincial crime for the years 1916 and 1917 was its sharp declining tendency. In the first half of the year under review, however, the curve straightened out and in August, under the stimulus of a sudden and marked rise in the price of foodstuffs, started on an upward path which, with the exception of a drop in November due to the inhibitory effects of the influenza epidemic, it pursued up to the end of the year. It is still (1919) ascending, but will have to climb a long way before it touches the 1914 level. Many factors combined to produce the increase in the latter half of the year. The sudden, and, to some extent, artificial rise in the prices of foodstuffs resulted in the commission by the needy of petty thefts and burglaries, and incidentally stimulated the activities of habitual offenders and the settled criminal tribes which had not been touched by the operations of the Criminal Tribes Department against wandering tribes in the preceding year. Wholesale recruiting operations in the first half of the year unsettled the people generally, and nearly tripled the number of military deserters for whom crime alone furnished a means of livelihood. The mushroom military depôts scattered all over the province were full of bad characters who,disturbed by the news of approaching demobilization, commenced harrying the neighbourhood. And last, but not least, was the effect upon the province generally of the removal of the restraint, both moral and physical, which war conditions had imposed. The province had behaved remarkably well for four weary years and some reaction was inevitable.

139. The co-operation of the public throughout the year has been acknowledged by cash rewards and grants of land, while on the other hand failure to realise responsibilities in this connection has led to the punishment of village officers and the location of punitive posts of which 25 were in existence at the end of the year. This policy has been pursued with successful results for the past 5 years, and it is satisfactory to be able to note that with the exceptions of a few instances of lawlessness and defiance to constituted authority, which were the results of opposition to recruiting on the part of backward localities where no military traditions existed, a marked feature of the year has been a due respect for law and order on the part of the public.

Murders and dacoities.

140. Murders have steadily decreased, with the exception of a slight relapse in 1916, from 538 in 1914 to 508 in 1918. It is satisfactory to note that murders in the Shahpur district decreased from 37 in 1917 to 27 in the year under review. There was, however, an epidemic of murders in the villages at the foot of the Salt Range in May, June and July which is attributed by the District Magistrate to the irritability caused by the excessive heat in those months.

141. There were only 41 cases of dacoities during the year as compared with 53 in the previous year. The Ferozepore, Hissar, Ludhiana, Jullundur and Native States Police are to be congratulated on the success achieved in breaking up the Central Punjab gangs of dacoits, and the thanks of Government were conveyed to the combined Military and Police Forces engaged in rounding up the notorious Jabbi outlaws in the Attock District.

Burglaries and thefts.

142. Burglaries rose from 11,047 in 1917 to 12,332 in 1918, showing an increase of 1,285 cases or 12 per cent. Ordinary thefts also show a rise from 4,907 to 5,498, *i.e.*, an increase of 519 cases or 12 per cent. The increase in this form of crime is evidently due to the unprecedented rise in the prices of the necessaries of life and the swarms of military deserters roaming at large in the country-side. It is hoped, however, that the vigorous application of the two new preventive measures, the Village Patrols Act and the Act for the Restriction of Habitual Offenders, will do much to check crime of this description.

Police Working.

143. Detection and prosecution results were distinctly unfavourable during the year under review, the all-round percentage of cases convicted to true cases being 28·58 as against 32·68 in the previous year, while the percentage of cases and persons convicted to cases and persons tried was 70·33 and 56·91 as compared with 72·43 and 57·32 in 1917. This falling off in convictions may be accounted for by the influenza epidemic, the withdrawal of trained policemen for service in the police battalions, and, to some extent, by the fact that trivial charges against offenders who volunteered to join the Army were withdrawn.

Preventive Measures.

144. During the year under report 2,270 persons were called upon to furnish security under section 110 of the Code of Criminal Procedure, as compared with 2,655 in 1917, *i.e.*, a decrease of 385. The decrease is explained by the continued enlistment of bad characters in the Army. The Village Patrols Act and the Restriction of Habitual Offenders Act can now be legally enforced where required and have already begun to prove their usefulness.

Criminal Investigation Department.

145. The Criminal Investigation Department continued to render excellent service to the Administration. No important cases of political crime occurred during the year and in consequence the investigation staff were able to pay considerable attention to ordinary organized crime, such as *barda faroshi* (trade in women) and thefts from registered and insured letters and parcels.

146. Under the Ingress Ordinance the number of persons interned on 31st December 1917, was 57, 39 were interned during the year and 80 were released, leaving a balance of 16 at the end of the year. Similarly the number of those restricted on 31st December 1917, was 905, 81 were restricted during the year and 439 had their restriction orders cancelled, the balance at the end of the year being 545. Under the Defence of India Act the number of those under restriction at the end of the year was 76 as compared with 84 at the close of the preceding year. Now that the war is over, the cases of men still interned or restricted are subjected to periodical consideration.

Finger Print Bureau.

147. During the year 27,469 references were received by the Finger Print Bureau at Phillaur for search, of which 5,332 were traced, as compared with 29,424 slips referred and 5,567 traced in the previous year. The number of finger impression slips on record at the end of the year was 261,186 as against 251,391.

Internal Economy.

148. During the year two new Police Stations were located at Kunjah and Baha-ud-din in the rapidly developing canal tracts of the Gujrat District. The separation of the Railway Police from the Criminal Investigation Department alluded to in paragraph 147 of last year's report was carried into effect in the spring of 1918. Under the new scheme the safety of passengers has been provided for by a large increase to the train patrolling establishment, and a central investigating agency to deal with complicated cases of railway crime which frequently extend over several jurisdictions and provinces has been created. At the same time the energies of the force have been limited to the performance of legitimate duties, the Railway Department being left to provide for the watch and ward of railway property and goods as contemplated in the orders of the Government of India on the subject. During the year steps were also taken for the replacement of enrolled police clerks in the separate offices of all Deputy Inspectors-General (including the Criminal Investigation Department) and the Railway Police by civilian clerks, and the amalgamation of these establishments with the existing clerical establishment of the Central Police office. This measure is expected to ensure an even flow of promotion in the combined cadre, and to improve the prospects of clerical employees to a considerable extent, besides promoting general office efficiency.

Rural Police.

149. During the year 7 zaildars, 117 lambardars and 154 village chowkidars were punished for neglect of their duties connected with the criminal administration, but on the whole the rural police continued to render useful assistance to the regular force.

CRIMINAL TRIBES.

General.

150. The initial difficulties of the scheme outlined in last year's report, having been overcome, attention was devoted to developing the settlements and thereby giving effect to the new arrangements by the gradual removal, from districts, of members of criminal tribes who were either unfit to be left without stricter supervision than it is possible for the district police to exercise or who were deserving of reward for good behaviour and could set a good example to their less reformed brethren. Most of the violent wandering tribes had been placed in settlements in the first year. It therefore became possible to tackle the more criminal settled tribes who, though not so bitterly complained of as the wandering section, have been found to be responsible for many unreported and untraced crimes. But the difficulties experienced in dealing with the settled tribes have turned out to be far greater than was anticipated. The circumstances of the tribes are more varied and the worst characters amongst them often have a strong backing among the local zamindars. Efforts were made to multiply labour-supplying settlements, and it was arranged that the employers of labour should construct settlements at their own cost, provide medical aid, and, as far as possible, be responsible for sanitation. The police officers on the staff were engaged largely in tracing and bringing back absconders. As a result of the classification mentioned in paragraph 151 of the last report the registration of 2,693 men was cancelled under Rule 24 of the rules under the Criminal Tribes Act, and proposals are under consideration to relax restrictions in the case of comparatively harmless tribes. The introduction of the scheme has resulted not only in the transformation of criminal tribesmen placed in settlements, but has had the general effects of stimulating the criminal tribes to find remunerative occupation in their places of residence for fear of being removed to settlements.

Number on registers.

151. Excluding men whose registration was cancelled and men who died, and adding fresh registrations, the total number of male adults on the registers was 31,473 at the end of the year of report against 33,498 on last January 1918. At the end of the year under report only 5,901 of these, including 2,223 registered males, were in settlements. Supervision over all the other members of criminal tribes is exercised through the local police and was fairly effective.

Progress.

152. While the organization and development of the settlements have not been free from serious difficulties the results so far must be regarded as highly promising. Many men, women and children whose livelihood depended on crime have been brought under healthy influences and even hardened criminals, regarded as incorrigibles, are now earning an honest livelihood in the settlements and thereby setting a most useful example to others. The gospel of the dignity of labour is slowly making headway with the result that the prejudice against employment in mills and factories is dying out. Cases of breach of discipline are becoming less common. Attempts are now being made to start Co-operative Credit Societies, and altogether the situation, while it calls for constant vigilance, is distinctly hopeful.

Settlements.

153. At the close of the year under report 16 settlements were in existence. Eight new settlements were established while two had to be closed, the inmates being transferred. Of the 16 settlements, 10 are in the charge of various societies, the Salvation Army and the Arya Samaj, each undertaking the control of three. In the majority of cases the Societies evince a keen interest in this branch of their work.

Convictions.

154. The percentage of total convictions on the total registered male population, which had fallen last year from 10·8 to 2·3 has sunk further to 1·6. The percentage of convictions under the Indian Penal Code fell from ·54 to ·36; and it is a matter of satisfaction that the percentage of convictions under the Indian Penal Code among the wandering section, which has so far been known as the more troublesome, was ·2 while the corresponding figure for the settled tribes was ·44.

Expenditure.

155. The total expenditure of the year amounted to Rs. 2,48,000 of which Rs. 1,30,000 was recurring. The settlements are still in the process of development and expenditure has not yet risen to the full estimated limit. Owing to the introduction of economic methods it has been possible to run the settlements, at a lower rate than was expected, and it seems probable that without exceeding the maximum figure sanctioned the number of settlements provided in the scheme may be exceeded.

Co-operation of Native States.

156. All the Native States adjoining the Punjab sent intimation of having taken the necessary steps for the control of criminal tribes, in pursuance of the resolutions passed at the conference referred to in paragraph 160 of last year's report. The Patiala, Bahawalpur, Bikaner, and Kashmir Darbars rendered all possible assistance in the arrest of absconders from the Punjab and the Patiala Darbar is taking steps to establish two Industrial settlements in the State.

Recruiting.

157. In November 1918 when recruitment was stopped owing to the cessation of hostilities in Europe the aggregate of recruits supplied by the criminal tribes stood at 2,017, including 1,307 combatants. The more important contributions were made by the Baurias of the Central Punjab who were placed in a separate double company of the 2/35th Sikhs, the Eastern Punjab Baurias from Hissar and Gurgaon who enlisted as drivers, the Harnis of Ludhiana, some of whom went as artillery drivers, the Heris of Hissar who enabled the formation of a strong double company of Pioneers, the Bars and Tharanas of Lyallpur and the Nur Mahrams and Akla Hayats of Jhang who enlisted in the 2/56th and 2/72nd Punjabi Regiments. The aversion of members of criminal tribes to service of any kind is proverbial. It is therefore a matter of satisfaction that they did their duty by furnishing recruits to the extent of about one-fifteenth of the total male adult population over 12 years of age and that more than 65 per cent. of the recruits enlisted as combatants.

Chemical Examiner.

General.

158. The building of the new Chemical Laboratory in Lahore was commenced during the year and the work is now well advanced. The Murree Laboratory which was practically completed by the end of June, was in use for the first time during the remaining hot weather months and proved in every way suitable.

Cases.

159. The number of cases investigated by the Chemical Examiner decreased from 1,427 in the previous year to 1,297 in 1918. The decline has been progressive for the past five years and is partly due to the diminution of crime and partly to the greater number of cases sent to the Imperial Serologist at Calcutta, nearly half the blood work of the Province having been disposed of in this way during 1918. Human poisoning cases account for nearly 54 per cent. of the medico-legal work. Although opium continued to hold the field as the favourite poisoning agent, appearing in 28·42 per cent. of cases, it was closely rivalled by arsenic which was detected in 27·72 per cent. of the total number of cases. In animal poisoning arsenic was, as usual, most commonly employed.

20.—Criminal Justice.

General.

160. The total number of offences reported during the year was 164,512 as compared with 180,819 in the previous year. The decrease in crime is mainly due to the continued operations of the causes mentioned in paragraph 162 of last year's report. An additional cause is to be found in the spread of influenza in an epidemic form during the months of October and November 1918.

161. The number of true cases was 103,825 or 63 per cent. of the total reported.

162. The number of cases brought to trial, *i.e.*, true cases, less those dealt with under sections 247 and 259 of the Criminal Procedure Code, during the year was 95,008 and the number of persons involved in them was 228,061, as against 109,001 cases and 249,842 persons in the preceding year.

Disposal of cases.

163. The total number of criminal cases disposed of during the year under report was 157,530 as compared with 178,053 in the previous year. Of the total number of decided cases 147,324 or 93·5 per cent. were original cases and 10,206 or 6·5 per cent. were cases in appeal and revision.

164. Of the 228,061 persons brought to trial, 156,474 or 68·1 per cent. were acquitted or discharged; 55,988 or 24·55 per cent. were convicted; 601 or ·26 per cent. died, escaped or were transferred to another province and 14,998 or 6·58 per cent. remained under trial. In the previous year the corresponding percentages were 68·4, 26·02, ·08 and 5·05 respectively. Of the 156,474 persons acquitted or discharged, 63,884 or 40·82 per cent. were discharged in consequence of the non-appearance of the complainants or the withdrawal of the complaint.

165. Under the Indian Penal Code reported offences have dropped from 126,426 to 113,771 and those admitted to have occurred, including offences reported during and pending from the previous year, from 76,781 to 68,203. Of 140,38) persons brought to trial under this Code, 20,017 or 14·26 per cent. were convicted. Of the 21,374 persons brought to trial whose cases were challaned by the police, 12,165 or 56·9 per cent. were convicted, but of the 119,015 persons dealt with on private complaints only 7,852 or 6·9 per cent. were sentenced.

Serious forms of crime.

166. Dacoities dropped from 109 in 1917 to 84 in 1918, and robberies from 287 to 243. On the other hand thefts and the receiving of stolen property taken together shew a slight increase. The District Magistrate of Lyallpur reports that "the village patrol system, the regulation of the criminal tribes, and the colonization of the Lower Bari Doab have sounded the knell of the aboriginal cattle-thief in the Rachna Doab."

Murders.

167. The number of persons brought to trial for murder (sections 302 and 396, Indian Penal Code) was 1,110 of whom 466 were convicted, and 232 death sentences were pronounced by Sessions Judges subject to confirmation by the Chief Court. Of the total number of persons whose cases came before the Chief Court for confirmation of the death sentences, 65 per cent. obtained no reduction of sentence, 10 per cent. were transported for life, 5½ per cent. were convicted of lesser offences than murder and nearly 20 per cent. were acquitted. In addition to the 135 death sentences thus maintained by the Chief Court, 13 death sentences were also passed by that Court by way of enhancement of the sentences of lower courts.

168. His Honour the Lieutenant-Governor commuted the death sentence of 9 convicts to transportation for life and that of one convict to 14 years' rigorous imprisonment. His Excellency the Governor-General in Council commuted the death sentence of 2 convicts to transportation for life.

Matrimonial offences.

169. Matrimonial offences have decreased from 8,723 to 7,417. The decrease is partly due to the action of certain District Magistrates who have encouraged the idea that the worst type of offender is the person who commits an offence against a man on active service. The extension of the marriage registration system has also helped to reduce this type of crime.

Miscellaneous.

170. Reference was made in paragraph 175 of last year's report to the opinion expressed by the Judges that more cases would be dismissed under section 203, Criminal Procedure Code, if they were heard in the first instance by experienced 1st Class Magistrates. Although this view is supported by certain District Magistrates, there are others who are not

favourably impressed with the working of the scheme in their districts. No doubt 1st Class Magistrates have had many extra duties to attend to during the year, but under less strenuous conditions they should be able to devote the time, skill and patience, which are necessary if this system is to be a general success.

171. An Additional Judge was again sanctioned for a portion of the year for the inspection of the work of the lower courts. During the past cold weather, the courts have been inspected by the Inspecting Judge at the head-quarters of 20 districts and one tahsil.

172. During the year the Act for the restriction of habitual offenders within their villages came into operation. In a number of cases the security order under Chapter VIII, Criminal Procedure Code, was cancelled and an order of restriction substituted for it. The District Magistrate of Ambala remarks: "The Act is obviously disliked by the persons affected, proof, if any, were needed, of its utility". The District Magistrate of Multan on the other hand writes as follows: "So far accused persons appear to prefer restriction to security, and I am not yet satisfied that restriction can be made really effective". It is still too early to form an opinion on the general working of the Act.

21.—Prisons.

Institutions.

173. The only changes effected in the number and constitution of the jails during the year were the reduction of the District Jail at Ambala to a subsidiary status and the closing of the Sub-Jail at Kulu.

174. The Camp Jails at Dhariwal and Khewra continued to do good work at the Woollen Mills and Salt Depôt, respectively. In appreciation of the work done at these institutions, the management of the former has offered to employ prisoners on their release and the Commissioner of Salt Revenue has expressed his desire for a permanent jail at Khewra.

Military labour and War work.

175. On the signing of the Armistice, further recruiting for the Jail Labour and Porter Corps ceased. In all 5,152 men were despatched to Mesopotamia.

176. To meet the demands of the Military authorities and Munitions Board, all work other than that deemed "essential" was suspended and a policy of concentration on war demands adopted. The Arsenals at Rawalpindi and Ferozepore as well as Grass Farms and Military buildings in various Cantonments have been supplied with labour amounting in the aggregate to 1,000 men daily.

Accommodation.

177. The total accommodation decreased from 14,699 to 14,687 owing to the closure of the Kulu Sub-Jail. Against this accommodation there was an average of 14,108 prisoners in jails throughout the year.

Admissions.

178. The number of admissions (15,851) shows a decrease of 1,371 or 7·9 per cent. and the average daily population (14,108) a decrease of 346 or 2·4 per cent. The number of prisoners received from jails outside the province, most of whom were from the North-West Frontier Province, amounted to 1,390.

Juveniles and juvenile adults.

179. During the year the addition of a Headmaster and a Second Master to the teaching staff of the Borstal Central Jail has resulted in a marked improvement in the quality and method of teaching. The addition of a Factory Supervisor and the revision of the scales of pay of certain Factory Staff have improved the outturn of the Factories.

180. Three lads were released conditionally to the Lahore Municipality under the scheme introduced in 1916. The further extension of this scheme has been somewhat hindered by the demands for labour at the Dhariwal Camp Jail. The religious aspect of the Borstal training has become a marked feature in the daily routine of the institution, and can but have beneficial results. Work on Military equipment, such as tents, ropes and water-buckets, has continued.

181. The large increase amongst under-trial prisoners is due to the presence of a large number of Military deserters. The average period of detention in jail was much the same as in previous years. Under-trials.

182. During the year there were 12 escapes as against 9 in 1917. Of these only one was from inside jail walls, the remainder, including one prisoner from the Camp Jail at Khewra, making off from outside. This number includes three cases of escapes of prisoners who were at the time under the immediate guard of the Police or Military authorities. Escapes.

183. The number of resignations among warders fell from 294 in 1917 to 164 in 1918. Great difficulty was, however, experienced in obtaining recruits and those forthcoming were not up to the required standard. To relieve the situation, brought about by the fact that the warder guard were much under strength, a scheme was submitted, and sanctioned for one year, whereby an expansion of the rules governing the promotion of convict officials was permitted. Staff.

184. The jail offences and punishments fell from 21,354 to 16,689, the causes being attributed to— Discipline.

(*a*) reduced population ;

(*b*) outbreak of influenza ;

(*c*) employment of prisoners on untasked military labour ; and

(*d*) a smaller number of habituals.

185. The expenditure on the guarding and maintenance of prisoners increased from Rs. 12,42,290 in 1917 to Rs. 14,42,805 during the year. The causes of this large increase are to be found in the increased pay of warder guard, establishment, grants of war and grain compensation allowances, and the high prices of food-stuffs and other articles. The cost per head showed an increase from Rs. 86-14-4 in 1917 to Rs. 102-7-2. Expenditure.

186. The daily average number of convicts sentenced to labour fell from 12,718 in 1917 to 12,144 and the total cash profits increased from Rs. 85,838 to Rs. 2,83,006. This increase is due largely to the employment of prisoners on war work. The cash profits would have considerably exceeded the total already given had it not been for the purchase of large quantities of cotton yarn at high rates in anticipation of orders from the Military Department, which unfortunately did not materialize, together with the complete cessation of work, in several instances, during the severe epidemic of influenza in September and October last. Industries.

187. Admissions to Hospital increased from 14,299 to 18,126 and the daily average sick from 545 to 698, while deaths were more than double the figure of the preceding year. These rises are entirely due to the appalling epidemic of influenza which raged in September for three months. The number of deaths from this disease alone amounted to 475 out of a total of 837. Admissions and deaths from tuberculosis were 102 and 55 respectively as compared with 279 and 91 in 1917—a marked improvement. Health.

188. Pneumonia accounted for 402 admissions and 97 deaths as against 359 admissions and 88 deaths in the previous year. The increased mortality shown under this head was probably due to influenza. There was a decrease from 5,459 to 3,980 in admissions on account of Malaria but the number of deaths rose from 14 to 19.

189. Two cases of Plague occurred in the Lahore Female Jail in January, the source of infection being probably the same in both cases.

22.—Civil Justice.

Institutions.

190. The total number of original Civil suits instituted in all Courts was 174,408 against 202,893 in the preceding year, a decrease of 28,485 including a decrease of 21,854 in money suits.

191. These remarkable decreases were partly due to the War which removed temporarily many possible litigants, partly to the wide-spread epidemic of Influenza during October and November, but also to the high prices of agricultural produce which enabled many debtors to pay off their debts in whole or in part and to the work of Co-operative Societies.

192. The total number of suits for money or movable property brought by bankers and shop-keepers against agriculturists fell from 73,558 to 63,300. The District Judge, Ludhiana, explains that the low percentage in his district is due to a reluctance on the part of shop-keepers to lend money to agriculturists and the growth of a body of well-to-do money-lenders among the agricultural classes. In certain districts there can be no doubt that the work of Co-operative Societies makes for a decrease in suits of this character.

193. The total number of suits for money or movable property fell from 171,888 to 150,034; the percentage of these suits on all suits, however, rose from 84·7 to 86.

194. There was a notable decrease of 512 in the number of suits to establish a right of pre-emption. The District Judge of Jullundur reports that a local rise in this form of litigation was due to the large sums of money coming into the district on account of pay and pension and subsequently invested in the purchase of land.

195. Matrimonial suits further decreased from 2,087 to 1,600. The system of marriage registration, which continued to extend during the year, has largely contributed to this satisfactory result.

Insolvency Act.

196. Application for a declaration of insolvency under Act III of 1907 including those pending from the previous year fell from 3,848 to 3,016; of these 1,265 were withdrawn or not prosecuted. The number of applications allowed fell from 1,429 to 1,240. Over 86 per cent. of the applications made during the year were presented by debtors.

197. A report was received from Gurdaspur that agriculturists desirous to evade payment of their just debts were taking advantage of the Financial Commissioner's ruling published in the Punjab Record (Revenue) Judgment No. 8 of 1917, wherein it was held that even temporary alienation of the land of an agriculturist in compliance with the decree or order of a Civil Court cannot be effected under the law as it stands at present in the Punjab. This ruling is however in conflict with a more recent decision by the Senior Financial Commissioner. The Financial Commissioners have agreed to take steps to make it clear that the latter ruling should be followed.

198. It was recently decided that petitioners in insolvency should at the time of presenting their petitions be called upon to deposit a fee of from Rs. 20 to Rs. 50 to cover the cost of issue of the necessary notices, and this order has had the effect of restraining a number of persons from instituting *mala fide* proceedings.

Value of suits.

199. The value of suits instituted fell from Rs. 3,98,31,320 to Rs. 3,90,51,102, but the average value rose from Rs. 196 to Rs. 224 in consequence of an increase in the number of suits of high value. The reasons detailed in paragraph 192 affected more especially claims for small amounts.

Disposals.

200. There were 220,220 regular suits before the Courts, of which 181,118 were disposed of, leaving a pending balance of 39,102 including 4,838 cases which could not be decided because one or other of the parties

was on active service. The corresponding figures for the previous year were 250,989, 215,964, 35,025 and 3,227. Of original suits only 28·5 per cent. were contested or referred to arbitrators and in 77·2 per cent. of these judgment was given for the plaintiff, in whole or in part. There were also 39,207 miscellaneous cases, of which 53·5 per cent. were contested.

201. 14,788 appeals were presented and 14,994 decided; of these 2,701 were dismissed *in limine,* 310 transferred, and 1,033 remanded. The appeal was wholly unsuccessful in 6,916 cases, partially successful in 1,499 and wholly successful in 2,535. Appeals.

202. In the year under report the average duration of contested suits was 91 days and of uncontested suits 48 days. The corresponding figures for the previous year were 80 and 40, respectively. In the Courts of Munsifs contested cases averaged 85 days as compared with 72 days. Duration of suits.

203. The increase is explained partly by the postponement of cases on account of the War, partly by the increasing difficulty of serving processes as larger and larger numbers were recruited for the Army, and in the latter part of the year by the serious outbreak of influenza which for some time brought work practically to a standstill.

204. The total amount realized in execution amounted to Rs. 62,55,995 as compared with Rs. 62,16,527 last year, the respective percentages being 26 and 23. The improvement appears to be due at least partly to the recent orders that stay of execution of a money-decree by an Appellate Court should not ordinarily be allowed unless the money is first paid into Court. Execution.

205. For the convenience of the Co-operative Societies of the Gurdaspur District three special bailiffs were sanctioned in order to facilitate the execution of decrees in favour of those societies; the pay of these bailiffs is met by the societies and the system appears to be working well.

206. The liquidation proceedings relating to the People's and Amritsar Banks and the Lahore Spinning and Weaving Mills Co., Ltd., in liquidation, were under the supervision of the High Court during the year. There was a surplus in both the above Banks after payment of 16 annas in the rupee to the creditors. The disposal of this surplus is under consideration. Dissolution orders in connection with these Banks are awaiting the result of the appeals in the Privy Council. The principal creditor of the Lahore Spinning and Weaving Mills Company, Limited, is the People's Bank. The property of the Company has been sold for Rs. 13½ lakhs. There is a certain amount of litigation still pending, but the remaining assets are small, and it is hoped that this matter will be disposed of by an early date. Liquidation proceedings.

207. The special kanungos appointed for all districts except Simla to prepare excerpts from the revenue records on the application of litigants continue to be of great service to Civil Courts. As an experimental measure, confined at present to three districts, Government have sanctioned the preparation by the special kanungo of revenue excerpts on the application of persons other than litigants who have an interest in any title in land. Accessibility of revenue records.

208. The scheme for the appointment of stenographers for the Courts of District and Sessions Judges has proved very successful. These temporary appointments have now been made permanent and pensionable, and it is hoped to extend the system in time to all districts. Certain District Judges have been able to propose a reduction in their establishments as a result of this scheme. Stenographers.

209. With the commencement of the present financial year, a High Court was established for the Punjab and Delhi under Letters Patent. Chief Court and High Court.

210. As pointed out in last year's report it takes about 3 years for a first or second appeal to come up for hearing by a Division Bench. The number of first appeals pending has increased steadily from 348 in 1914 to 607 in 1918. It is the heavy burden of Criminal Appellate work which makes it impossible for a Court of the present size to reduce the Civil Appellate pending file.

23.—Registration.

General Business.

211. As compared with the preceding year there was a decrease of 16 per cent. in the number and an increase of 1 per cent. in the value of compulsory registrations. The most noticeable variations were an increase of 10 per cent. in the number of gifts and decreases of 13 and 22 per cent. respectively in the number of mortgages and other leases. The causes to which variations have been generally ascribed are (1) the high prices of agricultural produce during the year under review, (2) the consequent rise in the price and renting value of land, (3) the improvement in the income of agricultural classes owing to their increased recruitment in the army, and (4) the influenza epidemic, which occurred in the last quarter of the year under review and which, on the one hand, interfered with the execution and registration of instruments and, on the other, increased the number of gifts and wills by emphasizing the precariousness of life.

212. There was a decrease of 18 per cent. in the number and an increase of 3 per cent. in the value of optional registrations affecting immovable property as compared with the previous year, due probably to the causes enumerated in the preceding paragraph. As regards the increase in value it may be mentioned that at Ferozepore a single award of the value of Rs. 9,37,773 was registered.

213. The variations in optional registrations affecting movable property, namely, a decrease of 6 per cent. in number and an increase of 9 per cent. in value call for no comment.

Land Alienation Act.

214. Thanks to the constant vigilance exercised by registering officers, efforts to evade the provisions of the Land Alienation Act are now becoming infrequent and only three cases were detected in which deeds infringing these provisions were actually registered. As regards these suitable action is being taken.

Income and Expenditure

215. Owing to the decrease in the number of registered documents receipts fell to the extent of 4 per cent. Expenditure, on the other hand, increased by a similar percentage owing chiefly to larger expenditure on establishment, leave allowances, the grant of famine and war subsidies, and a rise in the price of paper and binding material. The net profit on the operations of the Department in the year under review was Rs. 2,17,201 as compared with Rs. 2,38,289 in the preceding year.

23 (A).—Legal affairs of Government in the year 1918.

General.

216. The number of references for opinion disposed of by the Legal Remembrancer was 956 as compared with 955 in 1917 and 1,041 in 1916.

Original Suits.

217. The Secretary of State was plaintiff in 16 original suits during the year. Of these 8 were decided in favour of, and 1 against, Government; 1 was compromised; whilst 6 remained pending at the close of the year. Of the 8 cases decided in favour of Government, 3 were for possession of land, 1 under section 21-A of the Punjab Land Alienation Act and 4 for recovery of money. The total amount involved was Rs. 16,079-6-7. The Secretary of State was defendant in 109 original actions, including land acquisition references. Of the 10 land acquisition cases 3 were decided while 7 remained pending. The Collector's award was upheld in 2 and enhanced in 1. Of the other 99 civil suits, 41 were decided in favour of, and 15 against, Government and 1 was compromised.

218. The total amount involved was on account of—

		Rs.	A.	P.
(a) Land acquisition references	...	2,24,388	8	0
(b) Other cases ...	...	1,06,824	6	1
Total	...	3,31,212	14	1

219. In class (b) above the total amount claimed in decided cases was Rs. 68,106, out of which only the sum of Rs. 10,441 (including costs) was decreed against Government; whilst Rs. 3,365 was awarded to Government on account of costs in cases in which the plaintiffs remained unsuccessful.

Appeals.

220. In the District Judge's court 6 appeals were filed on behalf of the Secretary of State. Of these, 5 were decided in favour of, and 1 against, Government. The Secretary of State was respondent in 10 appeals preferred to the District Judge's court, of which 6 were decided in favour of, and 2 against, Government. In the Chief Court the Secretary of State was appellant in 4 appeals, 3 appeals being decided in favour of Government, while the fourth remained pending at the close of the year. The Secretary of State was respondent in 14 appeals of which 7 appeals were decided in favour of, and 1 against, Government.

Revenue Suits.

221. No revenue suits were filed on behalf of or against Government during the year.

Criminal Courts.

222. Government Law Officers appeared in 7 Original Criminal Trials in Subordinate Courts. Of these 4 were decided in favour of, and 1 against, Government Two remained pending. Out of 1,132 Criminal appeals in the Chief Court 690 were decided in favour of, and 251 against, Government and 191 remained pending. In Subordinate Courts one appeal was decided against Government. The Crown was also successful in 137 out of 268 applications for revision, 96 being decided against it. There were 8 miscellaneous cases out of which 5 were decided in favour of Government.

24.—District and Local Boards.

General.

223. Although during the year under report which ended in March 1919 no important changes were introduced in the constitution of district boards, the preliminary steps were taken towards the initiation of extensive changes which will come into force at the elections of February 1920. The number of the members in all boards has been revised and in those where the elective system obtains, the proportion of non-official members appointed by name will in no case exceed one-fourth of the total number of non-official members and in many cases will be much less. The opportunity has also been taken to re-arrange electoral circles and it is hoped that this re-arrangement will stimulate interest by providing a more equal distribution of the voting power. Another step which should tend to foster interest in district board elections is the fact that they will in future be held simultaneously in all circles of each district as well as in all districts. This should assist in focussing the attention of voters upon the more important problems of district board policy and upon the necessity for questioning the attitude of rival candidates towards such problems. In addition to the changes mentioned above which were decided upon before the issue of the Government of India Resolution on local self-government, dated 18th May 1918, it is anticipated that as a result of the policy outlined in that resolution more extensive changes will shortly be inaugurated in the direction of introducing an elective element in boards which are at present wholly nominated, of reducing the official element in all boards and of enacting legislation to facilitate the substitution of non-official for official chairmen in the more progressive boards. The election in the Lyallpur District gives grounds for confidence in the success of the experiment, provided that the mainspring of the board's activities continues to be

intellectual and material progress and that the danger is avoided of party politics becoming the dominating factor. This view is applicable to all boards in connection with the impending changes mentioned above and the Lieutenant-Governor looks forward to seeing as a result of these changes a quickening of the interest taken by members and voters in the progress of their boards and in the general welfare of their districts.

Elections.

224. During the year under report 76 elective vacancies occurred. Of these no fewer than 56 were uncontested, while two had to be filled by nomination in the absence of a candidate for election. There is no doubt that the fact that the term of office of members now elected will be short-lived in view of the general elections to be held in February next accounts for some loss of enthusiasm. The absence of a contest, however, is by no means always an indication that the vacant seat is not keenly sought after as the withdrawal of a candidate just before the poll is a common feature of district board elections.

Working of the Boards.

225. The interest taken by members in the discussions of the board is lively, but there is less unanimity concerning the keenness displayed in the discharge of executive duties. The deliberations of the Multan board are characterized by an increasing interest, but the members are reluctant to undertake drudgery. The working of several other boards conveys a similar impression. On the other hand there is evidence of an extended employment of sub-committees with, on the whole, satisfactory results.

Finance.

226. The problems of district board finance are causing grave concern to many boards, which are finding that while their expenses rapidly increase with rising prices of labour and materials, their income remains constant and presents little scope for further development. The income derived from Government contributions is fixed and revised periodically, a system which has been devised with a view to enhancing the financial independence of the boards and teaching them to exercise foresight in the preparation of plans of expenditure over a period of years. To allow frequent revision of these fixed contributions to meet unexpected calls upon the financial resources of the boards would defeat the object at which the policy aims. The problem before the boards is therefore to tap new sources of revenue to meet their growing expenses. The maximum to which the local rate can be raised has now been attained in all but four districts of the Punjab, and few boards can look forward in the near future to any enhancement of the land revenue on which the local rate is calculated. Public opinion is rightly opposed to an increase in school fees and is apathetic regarding the charging of fees for medical attendance to the well-to-do. Some boards are resorting to the imposition of a *haisiyat* tax upon persons deriving income from property which is not subject to the local rate. In Attock such a tax came into force during the year under report. The sum assessed was Rs. 7,809 and it is anticipated that Rs. 10,000 will be realised in the current year. Karnal, Rohtak, Amritsar and Shahpur are devising similar taxes. It is doubtful, however, whether the sum which these will bring to the board will in any case be large and their object is not so much the raising of a large income as the distribution of taxation on a more equitable basis as between the agricultural and non-agricultural communities. Some boards are able to derive enhanced revenue by developing their arboricultural and similar activities, but these sources yield as a rule slow returns and in some of the dryer parts of the province the yield from arboricultural operations is small and uncertain. Taxation of railway imports and exports and roads tolls have been suggested as possible sources of income. Such indirect taxation is open to the objection that it hampers trade and is apt, in the long run, to fall upon the consumer, and more hope seems to lie in the enhancement of the existing direct taxation. The Lieutenant-Governor has recently had under consideration the desirability of enacting legislation to raise the maximum limit of the local rate to provide for the growing needs of district boards in connection with educational expenditure and district boards will shortly be given an opportunity of expressing their views on the expediency of this course.

PROTECTION.

Income.

227. The gross income of district boards during the previous year had been Rs. 83,16,600, the highest figure ever attained. This figure was, however, exceeded during the year under report by no less than 11½ lakhs, and the total income received amounted to Rs. 94,90,888. To this increase somewhat over 3 lakhs was contributed by the local rate, the proceeds of which in the Lyallpur District alone exceeded the previous year's total by nearly a lakh. Government contributions account for the greater part of the remainder, a fact which lends no colour to the grievance that some boards are inclined to urge, that the system upon which Government grants are now distributed has brought them into a difficult financial position. The total expenditure of district boards was Rs. 81,42,719, or approximately 10 lakhs in excess of that of the previous year.

228. Receipts under the head Education exceeded the previous year's total by Rs. 2 lakhs at Rs. 18,77,792. The difference is solely due to an increase in Government contributions. These amounted to slightly over Rs. 15 lakhs. School fees brought in Rs. 3,59,978, a slight increase over the preceding year. In 1917-18 the expenditure of district boards on education totalled Rs. 25,36,830. In 1918-19 it rose to Rs. 28,80,816.

229. The head Medical is credited with an income of Rs. 1,34,320, which exceeds that of 1917-18 by Rs. 23,445. The increase is almost entirely accounted for by Government contributions, but hospital receipts and sanitation receipts have both risen appreciably. Expenditure was higher at Rs. 8,59,310 as compared with Rs. 7,86,998 in the previous year. This increase was spread over various sub-heads, but owing to the influenza outbreak expenditure on plague and other epidemics increased by 50 per cent. The activities of the boards in their medical departments were in fact largely engrossed by the influenza and other epidemics and little is recorded during the year in connection with the construction of new dispensaries. Many projects for new dispensaries have, however, been sanctioned and even begun, in most cases with assistance from the special Government subsidy which was sanctioned for this purpose. In the few cases where new dispensaries were ready to be opened it is reported that sub-assistant surgeons could not be spared by the Medical Department and the opening had to be postponed. Although the system of charging fees from the well-to-do makes no headway the dispensaries are generally reported to be popular and to confer valuable advantages upon the public. A somewhat inexplicable exception is the Hoshiarpur District where it is stated that very little use is made of these institutions.

Expenditure.

230. The expenditure of boards on civil works was Rs. 32,69,638 or nearly Rs. 4½ lakhs more than in 1917-18. Though labour has continued scarce and materials costly and difficult to obtain owing to the lack of railway transport, many boards have found it impossible to defer any longer the execution of necessary new works and repairs, and some boards, for instance, Ludhiana, have worked up to the programme originally devised.

Miscellaneous.

231. Increasing attention is being paid by district boards to the establishment of demonstration farms and to the popularization of improved agricultural methods. For the latter purpose Agricultural Assistants are being entertained by some boards. The Government Cattle Farm at Hissar supplied 186 bulls to district boards during the year or 20 less than in the previous year. The Hissar District, where the presence of the Cattle Farm provides an admirable object-lesson, took the largest number, namely, 20. In addition to the Hissar bulls, boards in the Western Punjab purchased bulls of the Dhanni and Dajal breeds.

232. The only board which has bestowed any attention upon improvement in sheep breeding appears to be that of Mianwali. Some years ago this board was enterprising enough to purchase ten three-quarter bred merino rams. Of these, two have died, and the remaining eight are doing good work. This enterprise is now being justified by results.

The progeny of these rams is reported to be of conspicuous excellence and the superiority of their wool is stated to be well established.

233. Arboriculture, as a profitable source of income, is receiving ample attention from the majority of boards at a time when they can afford to leave no stone unturned to add to their resources. The entertainment of additional and more fully qualified supervising staff still awaits achievement.

234. Miscellaneous activities comprise special measures connected with the influenza epidemic, the opening of cheap grain and salt shops, and the rendering of assistance in publicity work. In publicity works the Lyallpur board, which is in many respects the most progressive in the province, has taken a leading part and the District Board Bulletin, the organ of this board, has continued to disseminate reliable news and is now issued bi-weekly. The development of local self-government in the near future will, it is hoped, be rapid, and members of district boards will not lack opportunities for the discharge, both collectively and individually, of important duties and responsibilites requiring a high standard of ability and public spirit.

25.—Municipal Administration.

General.

235. The conversion of Moga from a notified area to the status of municipality raised the number of municipal towns from 100 to 101 during the year under report and reduced the number of notified areas from 104 to 103. At the close of the year, however, three new notified areas were constituted at Mian Channu, Khanewal and Jahanian in the Multan District. The status of the Sialkot Municipality has been raised to the first class. As stated in last year's report eight municipalities were selected for the introduction or re-introduction of the elective system. The first elections took place in most of these towns during the year under report. In Bhiwani, where the elective system had been abandoned 16 years ago, the elections were keenly contested and 80 per cent. of the voters are reported to have polled. In the Western Punjab towns, there appears to have been less enthusiasm. On the whole, it may be said that the extension of the elective system to these eight municipalities has, so far as the actual elections are concerned, been successfully inaugurated, and a further extension to other towns where nomination still prevails is under contemplation. In municipalities where the elective system is not new, elections are for the most part keenly contested in the larger municipalities such as Lahore, Amritsar, Sialkot, Ludhiana and Ferozepore and in places like Karnal where they are enlivened by personal rivalries. The new system of taking votes by ballot is described as a marked improvement on the former system, and as a result of the higher qualifications fixed for members it is stated that a better and more intelligent class of candidate has been elected to this committee. In the Jullundur Division, also, vacancies were hotly contested as a rule and there is evidence, it is reported, that the introduction of new election rules has enhanced the interest taken in the elections. Elsewhere, however, and especially in the smaller towns an apathetic attitude prevails among voters ; in many cases only one candidate comes forward ; in other cases negotiations between the rival candidates lead to the withdrawal before the poll of all candidates but one ; in both these circumstances voters lose the opportunity of acquiring interest in an election, which an obligation to compare the claims of one candidate with another engenders. The dearth of suitable candidates in small towns is to a large extent inevitable, but the practice by which candidates negotiate among themselves for a vacant seat, though in doing so they may sometimes make calculations as to how if given an opportunity, the electorate would vote, is not a practice which can easily be defended from the point of view of the voter's ultimate interests.

Working of the Committees.

236. The realisation of their general responsibilities by members of municipal committees varies to some extent in proportion to the size

and importance of the town. Intrigue and faction find their most favourable breeding ground in the small municipalities, where public opinion is apathetic and exercise little restraint upon the personal idiosyncracies of the members. Another serious fault, which is also most general among the smaller communities, is a lack of initiative.

237. In regard to their statutory functions there is evidence that municipal committees are on the whole bestowing greater attention upon their efficient performance. The Punjab Adulteration of Food Act, 1919, has now become law and with the framing of rules under this Act which is in contemplation it will be possible to confer upon the larger municipal committees important powers for the control of adulterated articles of food. The question of overcrowding is pressing itself upon the attention of municipalities more and more every year and with this question is closely connected that of encroachments upon public streets, which, unless jealously restricted, are apt to trespass unduly upon light and ventilation which are already too often inadequate. It is to be feared that most committees display a reprehensible laxity in dealing with such encroachments.

238. During the year under report Government sanctioned the resignation by the Deputy Commissioner of his membership of the Gujrat municipality and the election as president of a non-official member in his place. Since the year ended similar steps have been taken regarding the presidentship of the Hoshiarpur, Jullundur and Karnal Municipalities. The Lieutenant-Governor is satisfied that the policy of replacing official by non-official presidents of municipal committees is one which it is eminently desirable to foster and he hopes that the example of the municipalities mentioned above will be followed by many others. He is, not, however, prepared to proceed in advance of public opinion and to thrust upon municipal committees a sudden change for which their members may be unprepared and which might in some cases dislocate and hamper municipal administration. Miscellaneous.

239. Valuable assistance was rendered in combating influenza in practically every municipal town in the Province. The distribution free or at low cost of medicines, milk, food and blankets were measures commonly taken and in Lahore the municipal committee went the length of organizing travelling dispensaries. The cheap salt, grain and fuel shops which had been opened by many municipal committees continued to do good work during the year. In some towns the committee also made arrangements for the distribution of kerosine oil.

240. Excluding Amritsar, the municipalities of the Province realized by taxation Rs 49,11,581 compared with Rs. 42,42,591 in 1917-18, the incidence per head of population rising from Rs. 2-14-4 to Rs. 3-5-6. Terminal taxes brought in Rs. 1,07,882, nearly double the previous year's figure of Rs. 54,166, mainly owing to the addition of Lyallpur and Gujranwala to the towns where this form of tax has been adopted. Octroi receipts have risen from Rs. 37,08,664 by nearly Rs. 6 lakhs to Rs. 42,97,596. This remarkable increase had resulted from the rise in prices of articles on which octroi is assessed according to value, though some municipalities claim that more vigilant supervision has been a contributory cause. Taxation.

26.—Military (Indian Defence Force).

241. During the year under review there were one mounted and three unmounted Indian Defence Force units in the Province, namely :— General.

The 5th Punjab Light Horse, the 4th Simla Rifles, the 3rd Punjab Rifles and the 1/24th North-Western Railway Battalion, Lahore.

242. The strength of the 5th Punjab Light Horse was greatly reduced as members belonging to the Supply and Transport Corps, as well as Police, and those medically unfit for service, were struck off the roll. The total strength of the unit on 31st March 1919 was 195. 5th Punjab Light Horse.

The total number of members serving in the Indian Army Reserve of Officers was 126, the majority of whom were on active service.

4th Simla Rifles.

243. At the close of the year the 4th Simla Rifles returned a total of 473 of all ranks. The number of men on active service was 198, distributed between the Indian Army Reserve of Officers, Supply and Transport Corps and other branches of the service.

3rd Punjab Rifles.

244. The 3rd Punjab Rifles comprised 32 officers and 763 rank and file, a decrease of 27 on the previous year, primarily due to exemptions on medical grounds During the year a further contribution of 36 members was made to the Indian Army Reserve of Officers, bringing the total so commissioned to 130, the majority of whom were on service overseas. In addition 27 members joined up for Military service the number of all ranks thus serving being raised to 351.

245. The year under report is not remarkable for any direct military assistance rendered by the Battalion. But there is no doubt that the new system of training made the Battalion more efficient as a force, and thereby enabled the Military authorities to release more of the regular army in India for service overseas.

246. Guards were found for the Headquarters Armoury at Lahore for practically the whole year, and, during the summer months, when the strength of the Headquarters Company is reduced to a minimum owing to the migration to the hills, the duty was by no means nominal.

1-24th North-Western Railway Battalion.

247. The North-Western Railway Battalion had a total strength on active service of 215, including officers and men. Twenty-six officers obtained commissions in the Indian Army Reserve of Officers and two were employed with the Machine Gun Section in East Africa. Major J. C. Hunter and Lieut W. T. Biscoe of this unit were mentioned in despatches for gallant and distinguished service in the field. At the end of 1918-19 the Corps numbered 696 of all ranks.

Non-European Sections of the I. D. F.

248. In order to encourage recruitment for the non-European section of the Indian Defence Force, a Central Committee, consisting both of officials and non-officials, was formed in Lahore. It carried on propaganda work and did the best to popularise the movement There were two branches of the Indian Section—

(a) The Non-University Section.

(b) The Punjab University Company.

Non-University Section.

249. The Non-University Section was designated the 6th Infantry of the Indian Defence Force and the limit prescribed for it was 1,000 recruits. More than 1,400 applications were received for enrolment, but most of the candidates were declared medically unfit, 663 only being accepted. Of these only 290 were actually enrolled by the Military authorities and of this number only 158 underwent military training. The figure speaks for itself.

Punjab University, Section.

250. The Punjab University Section of the Indian Defence Force was commanded by Captain A. C. Woolner, the Registrar of the Punjab University. When the University and the Principals of the local Colleges were moved to introduce military drill in their institutions, the response made by the students was satisfactory and all those who were physically fit joined the drill classes. Three hundred and forty-nine students were selected for enrolment in the University Company, but only 286 were found medically fit and finally enrolled. The Company is doing good work, and there is keen competition among the students to fill vacancies. About fifty students were enrolled this year.

CHAPTER IV.

PRODUCTION AND DISTRIBUTION.

Detailed information on the subjects dealt with in this chapter will be found in e reports and statistical tables noted below :—

PROVINCIAL REPORTS.

Agriculture.—(1) Report on the Operations of the Department of Agriculture, Punjab, for the year ending 30th June 1919.

(2) Annual Report of the Punjab Veterinary College, Civil Veterinary Department, Punjab, and Government Cattle Farm, Hissar, for the year 1918-19.

(3) Report on the Land Revenue Administration of the Punjab for the agricultural year ending 30th September 1918.

(4) Report on the working of Co-operative Societies for the year ending 31st July 1919.

Fisheries.—Report on the Department of Fisheries, Punjab, for the year ending 31st May 1919.

Weather and Crops.—(1) Report on the Weather of the Punjab for the year 1918-19.

(2) Punjab Season and Crops Report for 1918-19.

Horticulture.—Report on the Lawrence Gardens, Lahore, for the year 1918-19.

Forests.—(1) Progress Report on Forest Administration in the Punjab for 1918-19.

(2) Progress Report on Arboriculture in the Punjab for the triennial period 1914-15 to 1916-17.

(3) Report on the Administration and Accounts of the District Boards in the Punjab for the year 1918-19.

(4) Land Revenue Report, as above.

Manufactures.—Report on the working of the Factories Act in the Punjab during the year 1918.

Trade.—(1) Report on the Internal Trade of the Punjab by Rail and River for the triennium 1916-17 to 1918-19.

(2) Report on the External Land Trade of the Punjab for the triennium 1916-17 to 1918-19.

(3) Report on the Joint Stock Companies in the Punjab for the year 1918-19.

Public Works.—Administration Report of the Public Works Department, Punjab, Buildings and Roads Branch, for the year 1918-19.

Irrigation.—(1) Administration Report of the Public Works Department, Punjab, Irrigation Branch, for the year 1918-19.

(2) Land Revenue Report, as above.

PUBLICATIONS OF THE GOVERNMENT OF INDIA.

Agriculture.—Statistical Abstracts for British India, Volume I, Commercial Statistics.

Forests.—Statistical Abstracts for British India, Volume II, Financial Statistics.

Crops.—(1) Agricultural Statistics of India, Volume I, Tables II and III.

(2) Estimate of Area and Yield of certain principal Crops in India.

(3) Prices and Wages in India.

(4) Variations in Indian Price Levels.

Mines and Quarries.—(1) Statistical Abstracts for British India, Volume I, Commercial Statistics.

(2) Records of the Geological Survey of India, Volume XLVII, Part 3.

(3) Report of the Chief Inspector of Mines in India.

Manufactures.—Statistical Abstracts for British India, Volume I, Commercial Statistics.

Trade.—(1) Inland Trade (Rail and River borne) of India.

(2) Statistical Abstracts for British India, Volume I, Commercial Statistics.

Railways.—Administration Report on Railways in India for the year 1918-19.

Irrigation.—Statistical Abstracts for British India, Volume I, Commercial Statistics.

27.—Agriculture.

SCIENTIFIC.

General.

251. One new extra Assistant Director of Agriculture and two extra Agricultural Assistants were sanctioned for "bara" reclamation work, while two posts of Agricultural Assistants were converted into gazetted rank as assistants to the Economic Botanist and the Agricultural Chemist respectively, and 15 new posts were added to the cadre of Agricultural Assistants.

Lyallpur College.

252. There is a steady increase in the number of applications for admission to the College, there being 265 applications this year as against 225 in the one preceding it. For the first time in the history of the College, the majority of the applicants were agriculturists. 32 students entered on the vernacular course, and the Rural Economy class for Revenue and Irrigation Officers, which was in abeyance in 1917-18, re-opened with 13 students, while to the Teachers' class, started last year, another batch of 20 students was admitted. A new addition is a short farmer's course of about 10 days' duration in which the main subject of instruction is the handling of the implements turned out at the Farm.

253. Proposals for enlarging the staff so as to enable it to cope with increasing work at the college are under contemplation, and a scheme for the extension of the Chemical block to accommodate the Soil Physicist, the Bactereologist and the 2nd Agricultural Chemist, plus the addition of new wings for the 2nd Economic Botanist, the Professor of Rural Economics, and the Entomologist, is also being examined.

254. A 9-inch diameter tube well to give the college an independent water supply has been sanctioned. A proposal to acquire by acquisition an additional area of 273 acres is under consideration.

Experiment and Research.

255. The Narwala Farm of 130 acres, reclaimed by the late Mr. Barnes, is showing signs of relapse, *reh* having re-appeared in rather over two acres of land. The progress of the deterioration is being carefully watched. "Bara" reclamation work in the Lower Bari Doab Canal Colony is being carried on and certain suggestive results have been obtained. Other important experiments conducted by the Agricultural Chemist relate to green manuring and the continuation of the work on nitrogen fixation in the fallow soils.

256. The Economic Botanist has continued his work on cottons and wheats. A new selection of American Cotton No. 285-F has afforded better results than 4-F—the most popular variety with the zamindars at present—and has been valued by Volkart Brothers at 10 per cent. above 4-F and by the British Cotton Growing Association at 4*d* a pound above American middling. In regard to wheat preliminary investigations into the milling and baking qualities of prominent types have been carried out at the Delhi Flour Mills and their relative values from a baker's point of view ascertained.

257. Experiments with Scotch potatoes in the Simla Hills continue and the date palm plantations at Taleri Bag, Muzaffargarh, are doing well.

Sericulture and Entomology.

258. Owing to the effect of change of temperature on the long voyage from France and the short period of hibernation due to late arrival of the silk worm seed the hatchings were only from 15 to 20 per cent. The

crop has been poor, but possibly on account of short supply very high prices have been offered for the small amount of cocoons sold, *viz.*, Rs. 190 to Rs. 200 a maund, as compared with Rs. 120 to Rs. 140 a maund realised last year. This fact, coupled with the appointment of a wholetime Entomologist, will, it is hoped, place on a sound footing the silk worm industry in the province. Both in the Lower Chenab Canal and the Lyallpur Farm bollworm attacked indigenous more than American Cottons. Parasite boxes were distributed in several districts. Mango trees in the Shalamar Gardens, Lahore, were protected from Monophlebus bugs by oil and cotton banding while good work was done in destroying Euphalerus at Sargodha and Gujranwala.

Agricultural Engineering.

259. There has been a slight increase in the number of wells bored during the year (349 wells as against 327), and the percentage of success has risen from 74·4 to 77·6. The high prices of material, the stoppage of goods traffic, the influenza epidemic, and the depletion of staff all militated against any rapid progress in this line of work.

260. Tube well installation work was practically at a standstill owing to the deputation of the trained mechanic borers and the transfer of three sets of boring plant to Persia.

261. Much useful work has been done by the Agricultural Engineer in inventing a new type of cultivator tine, adjustable without the use of bolts or nuts.

Implements.

262. The set back originating in 1917-18 became still pronounced during this year, only 396 imported implements having been sold as against 725 last year. On the other hand 668 implements manufactured by the Department were disposed of. But for the increased price of agricultural implements there seems little doubt that by now they would have been selling in thousands.

Experimental Farms.

263. Various experiments are being carried out at Lyallpur, Gurdaspur, Sargodha, and Hansi Farms. They consist in the testing of different types of important crops of the province, such as wheat, cotton, and sugarcane. The data from these different experiments with brief notes on them have been carefully recorded.

Demonstration work.

264. Land for demonstration farms has been notified for acquisition at Ludhiana, Hoshiarpur, Sialkot and Amritsar. Altogether a sum of Rs. 2,25,000 has been ear-marked by Government from wheat profits for initial expenditure on such farms, of which Rs. 1,54,476 have so far been allotted.

265. The system of demonstration plots referred to in paragraph 256 of last year's report has continued to work satisfactorily and agricultural association meetings have been held in 8 districts.

Miscellaneous.

266. (*a*) *Field Trials.*—The problem of the standard errors of field trials, which is of the utmost importance in deciding whether differences of yield in varietal tests are significant or not, has been carefully studied by the Deputy Director of Agriculture and the results obtained by him are being considered.

(*b*) *Crop Forecasts.*—The whole work of issuing official crop forecasts has been taken over from the Director of Land Records, Punjab. Government has sanctioned for a period of six months a staff of one Naib-Tahsildar and three computers for work on the correlations of areas and yields of crop with rainfall, prices and the like.

(*c*) *Aeroplane Photography.*—The Director has, in co-operation with the Director of Aeronautics, initiated experiments in aerial photography for the purpose of crop surveys. A series of photographs has already been taken and arrangements are being made to secure better cameras and to experiment with various colour screens which are expected to yield more instructive results.

PRODUCTION AND DISTRIBUTION.

STORAGE AND DISTRIBUTION OF SEED.

267. The purchase and sale of good cotton and wheat seed continues to be a very important part of the Department's work. The allotment from wheat profits for this purpose was Rs. 3,56,000.

Cotton.

268. The estimates of the area sown with 4-F American cotton in the colonies compared with the last year's sowings are:—

	1918.	1919.
Lower Chenab Canal	190,000	200,000
Lower Jhelum Canal	16,000	60,000
Lower Bari Doab Canal	173,000	235,000
Chunian Colony	10,000	10,000
Upper Jhelum Canal	1,000	6,000
	390,000	511,000

269. A proposal has been made in the Bombay market to make Punjab American tenderable against a Broach contract. The fixing of cotton standards is one of the recommendations of the Cotton Committee and will, it is hoped, enable the zamindar to get his proper premium for Punjab American.

270. In all 12 cotton auctions were held under the ægis of the Agricultural Department and 3 under that of the Co-operative Credit Societies, at which 122,000 maunds of cotton were sold at prices varying from Rs. 17-5-0 to 24-12-0 per maund.

Wheat.

271. Punjab 11 continues to be the most popular wheat in the canal colonies. The figures of area under this wheat compared with 1916-17 and 1917-18 sowings are:—

	1916-17.	1917-18.	1918-19.
Lower Chenab Canal	60,000	100,000	150,000
Lower Jhelum Canal	22,000	45,000	50,000
Lower Bari Doab Canal	15,000	50,000	100,000
Upper Chenab Canal	*Nil*	1,500	2,500
	97,000	196,500	302,500

Assuming roughly that Punjab 11 gives one maund per acre more than the mixed varieties it has replaced, the 1918-19 crop was 60,000 maunds greater than it would have been without the distribution of this form of seed.

Chari.

272. The sale of *chari* seed was a special measure designed to secure a sufficiency of seed at sowing time at reasonable prices, the market price of *jawar* seed having risen last year to Rs. 20 a maund. 6,000 maunds of seed were imported of which the Department sold only 400 maunds, but the main object of the import, the providing of cheap seed, was secured. When the consignment arrived, prices, after having been as high as Rs. 12 to Rs. 14 a maund, dropped to Rs. 9 or Rs. 10 a maund and in a week fell to half this figure. The full reasons for this extraordinary movement in prices cannot be determined, but it seems clear that the local dealers intended making a profiteering coup and were foiled by this measure. The consequent loss to Government amounted to about Rs. 25,000, but the experiment should serve as an object-lesson of the value of co-operative purchase of seed.

Seed godowns.

273. A seed godown for a co-operative store society to hold 5,000 maunds has been built at Shakargarh out of a loan of Rs. 8,000 from wheat profits and a proposal to build another small seed godown of 800 maunds at Kala Afghanan is being considered.

Elevators.

274. There is a possibility of the Lyallpur elevator being ready for work in May next to receive the 1920 crop. Proposals relating to the general scheme for the provision of elevators for the province are under consideration.

Co-operative Societies.

General.

275. Under this head a widespread awakening of interest is the most striking feature of the year. Even the Dera Ghazi Khan district, the one entirely barren field that remained, can now boast half a dozen societies with the promise of more, while at the other end of the Province, in Gurgaon, the number of societies has jumped from 10 to 88. The case of Ferozepore is even more remarkable. 181 new societies have been opened and many more applications are pending. Altogether 1,262 new village credit societies have been constituted while 300 applications were pending at the end of the year. There is now not a single district in the Province which is not moving forward, a fact which may almost be said to open a new chapter in the economic history of the Punjab.

Supply Societies.

276. A second feature that has marked the year is the development of supply, or more accurately, distribution societies. High prices and profiteering stimulated action and 187 supply unions and societies have been started. 93 of the latter are in towns, where a year ago, thanks to the generous provision by Government of a special staff, work was systematically inaugurated. In the villages, where the profiteer has hitherto had the field to himself, the wholesale supply of salt, cloth and oil has had a widespread effect and has done more than any thing else to bring home to the ordinary cultivator the material advantages of co-operation. As the economic situation did not admit of delay, existing credit societies had to be utilised as the chief agencies of supply, but credit societies are being rapidly combined into supply unions. 74 of these have already been formed and many more are under consideration. No new stores have so far been opened, but several are in contemplation, and there is, chiefly amongst those who do not appreciate their peculiar difficulties in India, a strengthening demand for them.

New forms of co-operation.

277. The establishment of such societies imposes heavy duties upon the staff who have, in the initial stages, to arrange for everything from the collection of indents to the final distribution of goods. The result is that there have been few attempts at new forms of co-operation which demand much time for preliminary enquiry and teaching. In the Gurdaspur district, however, where there are now a large Central Bank, 10 Banking Unions and nearly 600 village societies, some interesting experiments are being made. A Co-operative Dispensary society has been registered and building is about to begin. The Shakargarh Commission Shop Society has completed its 11,000 maund godown and has stored in it nearly 7,000 maunds of wheat. The milk society, opened last year and the first of its kind, proved a failure owing to bad management, but another has been formed and has made a good start. A society for the sale of baskets is on the point of beginning work, and a poultry society (at present unregistered) is supplying a local society in Dalhousie with eggs. An old but progressive credit society in which shares are fully paid has agreed to compulsory annual deposits for specified objects. All through the rains last year the members of 16 Gujar Societies, situated in a malarial tract, were given quinine twice a week with excellent effect by two itinerating Sub-Assistant Surgeons who worked with great tact and patience. Seven demonstration plots were arranged for the spring harvest and gave most satisfactory results. One hundred improved implements have been sold and the largest Banking Union in the district (Kala Afghanan) has decided to build a small godown for the storage of selected seed. Another Union (Gumtala), in the comparatively neglected tahsil of Shakargarh, has collected Rs. 5,162 for a Vernacular Middle School which is now open. The latest, and perhaps the most interesting experiment in the district, is a first attempt at co-operative tree-planting to increase the supply of timber and fuel, both of which are becoming scarce. The Presidents of two Banking Unions have each given a *kanal* of land for nurseries and both plots have been sown with *shisham* seed. 300 eucalyptus trees have also been distributed and the village of Bhabra has planted its waste land with nearly 400 *dhak* trees. Had more been available another village would have done the

PRODUCTION AND DISTRIBUTION.

same. The record of this one district shows what can be done where co-operation is thoroughly alive.

278. Elsewhere the most important experiment is the formation of a small group of Cattle Insurance Societies in the Rohtak District. Another has also been formed at Madar in Jullundur. The sweepers of Rawalpindi have opened a credit society which is the first of its kind. Similarly in Gurdaspur a number of fishermen have, after much persuasion, agreed to do the same. Nine credit societies have been formed amongst the miners of the Khewra Salt Mines. In Karnal an ordinary village society stores and sells its members' grain while in Attock an oilmen's credit society deals in oil and oilcake jointly. There are now 52 credit societies in which village menials (*kamins*) predominate. Most of them are doing well—a few exceptionally well.

279. In connection with the new types of society started last year there is little progress to record. The fodder scarcity of the cold weather brought the operations of the three *ghi* societies of Karnal to a standstill and work is only now being resumed. Another *ghi* society started this year in Lahore met with a similar check. Of the 31 societies started last year for the sale of cotton only three did any work. These societies were started prematurely, and it is doubtful whether they will survive.

Position of older societies.

280. There are signs of unmistakable progress among the older societies. The number of those classed A (first-rate) and B (good) has risen in 2 years from 37 to 47 per cent. Districts like Lyallpur and Gujranwala, which three years ago were in dangerous case, have shown remarkable improvement. Hopeless societies are under liquidation and most of the others are now out of the wood. Committees no longer take the bulk of the loans for themselves and fictitious recoveries, once widely prevalent, have almost ceased. During the last 2 years the recoveries of primary societies have risen from 28 per cent. of the amount on loan at the beginning of the year to 34 per cent. In the same period their deposits with central societies have increased from Rs. 3 lakhs to well over Rs. 10 lakhs. Several village societies have been able to make deposits of over Rs. 50,000. One Lyallpur society of 185 members has deposited as much as Rs. 78,000. Share capital and reserve now stand at about 90 lakhs out of a total working capital of Rs. 153 lakhs. Indebtedness is steadily decreasing. In the older districts the desire for education is strengthening and even a border district like Attock can show a society which has started a night school for its score of members.

Statistics.

281. The following figures illustrate very roughly some results of the year's working :—

Class.	On 31st July 1918.			On 31st July 1919.		
	Societies.	Members.	Working capital.	Societies.	Members.	Working capital.
			Rs.			Rs.
Central ...	45	4,866	56,16,995	57	5,701	71,75,216
Agricultural ...	3,937	125,040	1,37,52,460	5,228	149,040	1,55,21,099
Non-agricultural ...	45	5,063	3,97,969	172	13,264	5,39,560
Cattle Insurance ...	1	58	157	8	301	852
Total ...	4,028	135,027	1,97,67,581	5,465	168,306	23,236,727

Note—To calculate the actual number of individual members about 7,000 should be deducted on account of members—societies (4,800) and individuals (approximately 2,200)—who are members of more than one society.

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PRODUCTION AND DISTRIBUTION.

Cap tal.

282. The capital owned by members of Agricultural Primary Societies in lakhs is :—

	(*Lakhs of rupees.*)
Shares	50·27
Reserve	39·36
Net profits accrued	9·03
Total	98·66
Less interest not realised	6·00 (round).
Roughly	93

As loans to members total 122 lakhs, the net indebtedness of societies is only 29 lakhs. This is 14 lakhs less than two years ago, though in the interval credit societies have increased by 1,671. Including members' deposits, which have begun again to rise, societies now own 64 per cent. of their total working capital (153 lakhs).

Arrears.

283. Out of 3,374 societies that have been classified 492 are still classed as D (bad) and 1,280 more are C (weak). The consequence of this may be seen in the fact that proceedings had to be taken against 5,414 defaulters, and that over 6 lakhs of interest are in arrears. These figures doubtless represent serious defects, but compared with last year when 11,783 persons were dealt with and nearly ten lakhs of interest were in arrears they show improvement. It would, however, be idle to deny that evils exist. In too many cases of the older societies there is only one, or at most two men who do any real work. General meetings are apt to be held at long intervals with the inevitable result that members become apathetic. In most of the weaker societies dealings with money-lenders continue, and even some of the better class are not entirely above this. Probably these defects can never be entirely eradicated, but with regular inspection and assiduous teaching they can to a large extent be mitigated.

Central Banks and Banking Unions.

284. One new Central Bank (Gurgaon) and ten Banking Unions have been opened during the year, making a total of 55 Central Credit Societies for the Province. Recoveries this year have been unusually good, amounting in the case of old societies to nearly 50 per cent. of the amount on loan at the beginning of the year. Last year the corresponding percentage was only 35.

285. Financially the position of the Central Banks is unusually strong. Paid-up capital and reserve form 22 per cent. of their liabilities. This is about the same as Bombay and better than any other major province, except the United Provinces. The Committee on co-operation recommended a proportion of 1 to 8. This is the exact proportion in the case of Banking Unions.

District Conferences.

286. Probably the most important new departure made during the year is the holding of 13 District Conferences. The whole experiment has proved an unqualified success. 100 to 150 representatives attended each meeting and keen interest was displayed in a large variety of subjects. No one who was present at these conferences could fail to be struck by

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the stimulating effect of co-operation upon the shrewd but unlettered mind of the better type of agriculturist. It is slowly but surely teaching him to think for himself, and is giving him the courage and the opportunity to express his point of view. In view of impending political changes this is of obvious importance and may prove the starting point of a co-operative movement at once self-controlled and self-directed.

Punjab Co-operative Union.

287. The Punjab Co-operative Union which was formed last year primarily to control the Audit Fund is still in its initial stages. Many central societies, not perhaps realising its potentialities, have been slow in joining it. Efforts to remedy this and make it thoroughly representative are now being made. It should then be possible to entrust to it full control of the Audit Fund and gradually to make it the centre of co-operation in the Punjab.

Results.

288. Moral progress is less easily gauged, yet here too progress would seem to be considerable. Litigation and extravagance are both diminishing. A good instance in respect of the former is a Gujar Panchayat in the Gurdaspur District which in four or five years has settled 263 petty disputes, many of which must otherwise have been taken to the courts. Of diminishing extravagance the Arains of the Lahore District provide an excellent example. A special bye-law has been adopted by many societies in the district prohibiting certain specified forms of ceremonial extravagance. Thrice in seven years has a penalty of Rs. 100 been exacted for breach of the bye-law; and this year three fines of Rs. 10 or Rs. 15 each have been imposed. More business-like habits are also slowly being formed, and in some cases with such success that it is reported of a Hoshiarpur society that "some of the members handle the cash book and the ledger with as much facility as they handle the plough." It is not surprising therefore that in many districts a general desire for education is springing up. As already mentioned over Rs. 5,000 were subscribed by a Union in Gurdaspur for a Middle School. Another Union in the same district collected Rs. 1,550 for a similar purpose. In both cases land has been given free. In Gujrat 55 societies have pledged themselves to maintain an annual scholarship of Rs. 10(for the secondary education of the sons of poor co-operators. Nor is medical relief entirely forgotten. During the influenza epidemic two Jullundur societies subscribed Rs. 450 for medical assistance and a Ferozepore society Rs. 185. In some areas there has undoubtedly been a decrease of crime. Several villages in the Sirsa Sub-Division, that a few years ago had a most unenviable reputation, have now good societies and are no longer badly spoken of. Even women are beginning to be affected by co-operation. There is a Gujrat society with a woman as Treasurer, and from another district an application has been received for the registration of a society consisting entirely of women, all Christians.

Veterinary and Live Stock.

General.

289. Despite the dryness and heat prevailing in the summer of 1918, contagious cattle diseases were responsible for nearly 28,794 deaths. Seventy per cent. of these were due to rinderpest, a very striking result when it is remembered that in no previous year (since 1911-12) did deaths from rinderpest exceed more than 50 per cent. of the total cattle mortality and generally returned a much lower percentage. Inoculations for rinderpest numbered 106,393 or more than double the average of the previous quinquennium. It is doubtful, however, whether taken by itself the ratio between the number of deaths in a widespread epidemic, and the number of preventive inoculations performed after the outbreak has occurred can be expected to yield instructive results. The lavish use of serum as an educative agent would, indeed, appear to be of less present importance than a scientific study of the circumstances in which its use is of economic value.

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290. The following table gives a comparison of disease in recent years :—

Deaths from contagious diseases.

Year.	Equines.	Bovines.				
		Rinderpest.	Foot and mouth.	Hæmorrhagic septicæmia.	Black quarter.	Inoculation for rinderpest.
1911-12	59	9,300	684	10,900	1,914	32,000
1912-13	71	12,900	328	8,700	858	18,000
1913-14	42	12,700	706	10,700	733	29,000
1914-15	338	7,300	521	19,500	2,007	30,000
1915-16	73	2,400	675	7,100	1,415	26,000
1916-17	178	15,000	512	10,700	1,087	81,000
1917-18	1,369	8,500	1,295	13,400	2,609	66,000
1918-19	83	20,800	536	5,300	608	106,000

The figures suggest that cattle disease has not decreased in the last decade. The freedom of equines from fatal contagious disease is remarkable, and the only conclusion seems to be that they die mainly of old age or overwork.

291. The mortality due to diseases other than rinderpest was much lower than usual owing largely to the dry character of the year. In the case of black quarter, however, the great reduction of mortality is attributed to the vigorous vaccination campaign carried on in the Chakwal and Talagang Tahsils, where there had been a severe epidemic in 1917-18.

Veterinary College.

292. As was the case last year the College was very short handed. Seventy-eight students were admitted to the College during the year compared with 85 in the previous year. Of these only 26 were Punjab civil students, while the qualifications of the majority of those admitted left much to be desired. It is intended to re-open next November the Post Graduate Class which was discontinued owing to the war. The examination results of the College were effected by the influenza epidemic as well as by the general dislocation due to the April disturbances. Useful work has, as usual, been accomplished in the hospital attached to the College, and evidence continues to accumulate of the success of the anti-rabic inoculation of dogs.

Veterinary Hospitals.

293. The number of Veterinary Hospitals has increased by two since last year and now stands at 129. It is proposed to make a substantial grant from the wheat profits for the extension of hospital accommodation, but the shortage of staff at present militates against rapid progress in the provision of hospitals and dispensaries. The number of animals treated at the hospitals of the province totalled 291,985, a decline of 70,000 as compared with the preceding year. As in so many other branches of the administration, the influenza epidemic was mainly responsible for this diminished outturn of work.

Cattle-breeding.

294. Cattle-breeding proceeds steadily and there are now 1,265 stud bulls in the province as against 1,000 in the previous year. A scheme for subsidising selected owners of Dhanni bulls was approved by Government during the year. Some progress has also been made in the popularisation of three-quarter and half-bred merino rams, the Hissar Cattle Farm having supplied 105 rams, all but one of which were taken by private persons.

GOVERNMENT CATTLE FARM, HISSAR.

295. The Hissar Cattle Farm enjoyed a healthy and prosperous year. The rainfall, though seasonable, was scanty and resulted in a dearth of fodder but comparative immunity from disease. The question of fodder storage will come under the consideration of a committee which the Government of India is about to assemble. Stall feeding had to be largely resorted to, and the foresight with which substantial additions were made to the fodder reserve in the preceding year was thus amply justified by events.

296. The only contagious diseases that gave trouble were black quarter, rinderpest, and foot and mouth disease. Careful management, however, reduced losses to a minimum.

297. Five more Arab mares and one stallion were purchased at the close of the year and it is hoped that in the course of time the farm will be able to provide all the Arab stallions required by the Province.

298. Large sales of stock at high prices, especially to the Brazilian Government, realised the record sum of Rs. 1,34,787, while the profit and loss account showed a satisfactory surplus of Rs. 11,534 on the year's working.

27-A.—Fisheries.

299. Rules for the regulation of fishing are now in force in the Kangra, Gurdaspur (Beas section), Amritsar, Hoshiarpur, and Jullundur districts. A detailed scheme for the extension of the Fisheries Department is under the consideration of Government.

300. The Madhopur and Sirkian projects, referred to in paragraph 281 of last year's report, did not prove successful and were really on too small a scale to show definite results.

301. Trout-cultural operations in Kulu progressed very satisfactorily and the yield of ova and fry again exceeded that of previous years. Ova were sent to Chamba, Mandi and Kangra and the two streams in Kangra in which ova were planted last year received another consignment of nearly 60,000 ova.

28.—Weather and Crops.

Character of the season.

302. The present report deals with the autumn harvest of 1918 and the spring harvest of 1919; and the period which has to be considered in connection with these harvests extends from the beginning of January 1918 up to the end of May 1919. The former month may be considered to be the earliest month the rainfall of which affects the sowings of the autumn harvest and the latter the latest month influencing the yield of the spring harvest. The months of January and February 1918 were unusually dry. In the beginning of March light rain fell over the greater portion of the Province followed in the second half of that month and the first half of April by fairly heavy rain in the central and sub-montane districts and light to moderate rain elsewhere. This rain helped the sowings of cane and cotton. The second half of April and the whole of May were, however, practically rainless and thus the time available for the sowing of these crops was more restricted than usual. Light showers fell in June, but were generally insufficient to help sowings or to benefit the crops already in the ground. The monsoon was extremely weak in July and the first half of August, but became more active in the latter half of August and, lasting till the 3rd of September, gave frequent rain, chiefly in the northern and southern districts. After this date there was little or no rain, though ordinarily the monsoon persists till about the middle of September. The months of October and November were

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practically dry. Sowings were thus generally restricted and the standing autumn crops suffered in many places through the insufficiency of the monsoon rains Some rain was received in the second week of December in all the districts of the Province, except those in the south-east and helped the sugarcane, the only autumn crop still standing. Advantage was also taken of this rain to resume *rabi* sowings. A period of dry weather then ensued and lasted till the end of January when there was a substantial fall of rain throughout the Province, the rainfall of the month being above the average in every district, except Dera Ghazi Khan. The standing *rabi* crops derived much benefit from this rain. The weather was generally dry during the last week of February and the first three weeks of March. During the last week of March, however, there was light but fairly general rain which was of value not only to the standing crops but to the extra *rabi* sowings. Some rain accompanied in places by hail and high winds was received in April and the first half of May, but did no appreciable damage.

303. The total rainfall of the year was very much below the average in all districts, except Simla, where it was slightly in excess. The distribution of the rainfall over the different parts of the year also left much to be desired. It might be mentioned in this connection that the Deputy Commissioner of Ambala notes that on an examination of the rainfall statistics of the headquarters of his district since 1862 he finds that in no single year was there less than 2½ inches of rain in July till 1918 when the fall was less than ¾ths of an inch. Climatic conditions were thus unfavourable for both the sowing and the maturing of the autumn crop and for the sowing of the spring crops. Sowing operations were also considerably interfered with in the case of the latter by the severe epidemic of influenza which occurred when these operations were in progress. In the preceding year the autumn crops suffered serious damage from excessive rains, but the spring crops were satisfactory. The supply of water in canals was rather scanty as rivers generally ran low and inundation canals opened later and closed earlier than usual. The quantity of water brought down by hill streams was also comparatively small.

Sown and cropped areas.

304. The total area sown decreased by 34 per cent. as compared with the preceding year and 22 per cent. as compared with the normal. Unirrigated sowings dropped by 55 per cent. as compared with the former and 45 per cent. as compared with the latter. Similar comparisons for irrigated sowings show increases of 6 or 16 per cent., respectively. The total area matured was less by 39 per cent. as compared with the preceding year and 28 per cent. as compared with the normal. The proportion of irrigated sowings was 56 per cent. as against 35 per cent. in the preceding year and 37 per cent. the normal proportion.

305. Owing to the necessity of putting an unusually larger area under fodder crops and the favourable conditions for the sowing of the extra *rabi* crops an increase of 27 per cent., as compared with the preceding year, occurred in the area sown more than once in the same harvest. Of the total irrigated area 62 per cent. was watered by Government and the rest by private canals and from other sources. The corresponding percentage of last year was 67.

Chief staples.

306. The total area sown under wheat declined from 9,925,795 to 7,684,420 acres—a decrease of 23 per cent. as compared with the preceding year, and of 10 per cent. as compared with the normal. The decrease was confined to the unirrigated area, the irrigated area showing an increase of 2 per cent. as compared with the preceding year. As already stated the winter rains were insufficient for the maturing of the crop in the south-east. The total outturn (taking into account the revised figures reported from some of the districts after the submission of the final forecast) works out as 2,614,398 tons, or 1 per cent. above the normal.

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307. The total outturn of the other principal crops as compared with the estimated normal outturn is given below:—

Name of crop.		*Total outturn in percentage on estimated normal.*
Rice	...	116
Barley	...	105
Jowar	...	22
Bajra	...	32
Maize	...	93
Gram	...	59
Rabi oilseeds	...	63
Sugarcane	...	107
Cotton	...	129

Prices.

308. Owing to the unsatisfactory outturn, the increased demand for export and the restrictions on goods traffic prices were considerably higher in the year under report than in the preceding year. The most remarkable increases occurred in the prices of *jowar*, *bajra* and rapeseed which rose respectively from Rs. 3-7-0, Rs. 3-2-0, Rs. 4-7-0 to Rs. 7-4-0, Rs. 6-14-0 and Rs. 10-7-0 per maund. The price of wheat advanced from Rs. 3-15-0 to Rs. 5-9-0, of *gur* from Rs. 5-1-0 to Rs. 7-14-0 and of cotton from Rs. 12-1-0 to Rs. 14-14-0 per maund. In the case of the other food-grains the increases varied from 54 to 85 per cent. Exports of gram, *jowar*, *bajra* and cotton and imports of rice and sugar were heavier in the year under report than in the previous year.

Stocks.

309. Stocks of food-grains were reported to be generally sufficient. In Ambala and Mianwali it was alleged that stocks were being held up to keep prices high.

29.—Horticulture.

Lawrence Gardens, Lahore.

310. During the year under report sales brought in an income of Rs. 24,377, involving a small deficit of Rs. 882. With the removal of the embargo on the export of bulbs and seeds from Great Britain, however, a substantial increase in receipts may be anticipated.

311. The chief improvement effected during the year has been the levelling of the brick kiln opposite the gate of Government House. The removal of this unsightly mound has greatly enhanced the appearance of the Lawrence Gardens.

312. Twenty-four boys joined the Arboriculture class as compared with 31, the previous year, the average attendance being 21.

30.—Forests.

Alteration in area.

313. The area controlled by the Forest Department was reduced by 29 square miles to 7,045 square miles, the decrease being chiefly due to the disforestation of irrigable land for colonization purposes. The classification of the forests is now as follows :—

		Square miles.
Reserved	... ...	1,747
Protected	... ...	4,169
Unclassed	... ...	767
Leased	... ...	362
	Total	7,045

The actual area under forest growth remained practically the same as last year, since most of the areas surrendered were classed as waste lands

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Forest Settlements.

314. No new areas were finally settled during the year; but 200 acres of Rakh Khushab in Chenab Division were proposed for reservation. All the necessary works connected with the Kangra Forest Settlement were completed during the year. Orders were received from Government that the settlement of the Sutlej Valley forests in Bashahr State should be extended to the high-lying pine and fir forests, which have hitherto not been demarcated; but, as the whole of the Divisional staff was engaged on the extraction of timber for war purposes, nothing could be done during the year beyond the verification of certain records.

Working Plans.

315. All the field work for the revision of the Kulu and Kangra working plans was finished during the year and the plans will be completed shortly. The revised working plan for Shahdara was passed by the Inspector-General of Forests. A revision of the Bashahr and Chamba plans is urgently needed, but owing to the shortage of officers nothing can be done at present. Similarly in the Simla Hill States many of the working plans, notably for Jubbal and Tharoch States, are out of date and need early revision.

316. A 5-year felling scheme for the fir forests of Kumharsain State was prepared and approved, and felling schemes for the *chil* forests of Bhajji and Tharoch States were also drawn up, though not sanctioned before the end of the year. The browsing schemes for the 53rd and 54th Silladar Camel Corps are still in abeyance pending the reduction of the corps to a peace footing.

Protection.

317. The total number of forest offences reported was 8,269 as compared with 7,798 last year and 9,222 the average of the past 3 years. The increase of 471 over last year amounts to 6 per cent. and is to be ascribed mainly to the failure of the monsoon in 1918 which caused a severe fodder famine and a consequent increase in cases of illicit grazing and lopping. The total area of forest burnt was 29,952 acres, as compared with 11,796 acres last year. Climatically the year was an unfavourable one for fire protection owing to the scantiness of the 1918 monsoon, the consequent dry autumn, and the fierce heat of the early summer of 1919. The year's record was therefore not unsatisfactory except as regards the Kangra Division. For the fourth year in succession the villagers of the two Rawalpindi Divisions have co-operated with the Department in carrying out the departmental firing prescribed in the working plan and in protecting the *chir* forests during the fire season. Only 644 acres were burnt in the two divisions in 43 fires, showing that, as a rule, the fires were quickly extinguished. In Multan 2,038 acres of Alipur Range forests, containing great, quantities of *kana* grass, were burnt. In Kangra Division 9,400 acres were burnt in 105 fires. The Hamirpur Range in particular suffered severely from what appears to have been an outburst of wilful incendiarism on the part of the people. The snowfall was particularly heavy in the higher hills and caused a great deal of snow break, while avalanches were exceptionally destructive in Kanawar. Owing to the failure of the monsoon there was heavy mortality among seedlings in the Chenab and Jhelum Divisions; and the long continued drought completely destroyed the grass crop in those two divisions as well as in the parts of the Rawalpindi Division, besides retarding the growth of the forests as a whole.

Natural and artificial reproduction.

318. For the first time since 1912 there was an excellent crop of *deodar* seed in Bashahr, Kulu and Simla. In Rawalpindi for the second year in succession there was practically no *chil* seed; elsewhere the crop was average to poor; and the same may be said of blue pine, spruce and silver fir. In Kangra the oaks seeded well as did *shisham* in the plains divisions. The *deodar* seed germinated profusely, and the resulting seedlings are reported to be doing well, except in the arid regions of Kanawar, where they suffered from drought. In Kulu excellent progress has been made in the areas under regeneration. In Rawalpindi, thanks to four years' practical immunity from fires, the seedlings of previous years are

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doing very well. The prospects of reproduction here are very promising. As regards blue pine and fir, there is nothing special to report : the forests of the former are, generally speaking, full of seedlings. In Kangra bamboo forests there is little reproduction by seed, though a certain number of clumps flower every year. The crop of new culms this year was deficient owing presumably to the failure of the monsoon. Coppice reproduction of all species worked on that system was generally satisfactory throughout the province, though the development of the shoots was retarded by lack of rain.

319. An area of 1,575 acres was sown up in the 5 new irrigated plantations, the total being thus raised to 6,123 acres. The year's sowings were as usual generally successful, except in *kallar* soil. Up to the end of the year the total expenditure incurred on and the revenue derived from these new plantations have been Rs. 2,22,861 and Rs. 2,78,417, respectively.

Exploitation.

320. The total area worked over under the different systems of management was 55,422 acres, as compared with 63,969 acres last year. The decrease in the area worked under the uniform method is due to the fact that owing to the scarcity of labour the areas already under regeneration in the Rawalpindi Division could not be completely worked out and so new areas were not taken up. Special fellings for military purposes ceased to be required after the termination of hostilities and this accounts for the reduction under selection and unregulated fellings. The total outturn of all classes of produce as compared with the figures of the previous three years is given below :—

	Timber, c.ft. solid.	*Firewood, c.ft. solid.*	*Minor produce, value Rs.*
1918-19	7,243,000	27,158,000	25,16,879
Average 1915-16 to 1917-18	8,878,000	27,960,000	24,00,916

321. There was an increase in the departmental extraction of timber in Bashahr and Rawalpindi, owing to the heavy demands from the Munitions Board and the Railways, but on the other hand there was a large decrease in the removals by purchasers in Bashahr and Kangra Divisions due to the reversion to departmental working. The decrease in the departmental extraction of firewood occurred chiefly in Lahore Division and was due to labour difficulties. The explanation of the large increase in the outturn of minor produce is to be found in the larger extraction of bamboos in Kangra for military requirements, and also in the increased extraction of resin in Kangra and the two Rawalpindi Divisions.

322. For the extraction of resin 713,427 blazes were tapped, yielding 32,247 maunds net of resin. 28,778 maunds of resin, including 2,632 maunds on behalf of the United Provinces, were distilled at the Jallo Factory. The Punjab resin yielded 18,734 maunds of rosin, or 71¾ per cent. by weight and 52,701 gallons of turpentine, or 2·02 gallons per maund of crude resin distilled. The average sale price obtained for rosin was Rs. 17-8-3 per maund and for turpentine, quality I, Rs. 4-13-10 per gallon, as compared with Rs. 16-3-4 and Rs. 3-14-7, respectively, during the preceding year.

Miscellaneous.

323. A re-organization scheme for the Subordinate Forest Service was sanctioned with effect from 12th June 1919, as a result of which the scale of pay for all the cadres, except Rangers, was raised and a certain number of new posts added to each of the cadres. The increase is, however, to be spread over four years.

324. In pursuance of the policy of reducing the size of the larger and more unwieldy Divisions the Government has sanctioned the division of Kangra by the formation of a new Hoshiarpur Division. The splitting up of the Bashahr Division into two territorial charges has

been under consideration for some years past, but it has now been decided to abandon the idea of territorial distribution and to constitute two collateral Divisions, one called a Forest Division for the sylvicultural work and the general administration of the forests and the other an Exploitation Division for all timber works from the felling of the trees to the delivery of the timber in depôt. The scheme presents obvious difficulties, but is to be tried as an experiment and the details are being worked out. A similar arrangement is proposed for Kulu when departmental work is started there.

Timber works.

325. The departmental timber works were carried on under adverse conditions. The influenza epidemic in the autumn of 1918 completely dislocated all work for a couple of months or more. In Rawalpindi lack of pack transport seriously hampered operations. In Bashahr, owing to the failure of monsoon in 1918, the supply of water in the floating streams was so low that the greater part of the timber cut failed to reach the depôt within the year. The greatest difficulty of all, however,—and this applies to all divisions—was the scarcity of labour, particularly of sawyers. The demand is much greater than the supply, and the real remedy is probably to be found in the replacement of manual by mechanical labour. Hitherto, apart from the initial difficulty of transporting machinery in a mountainous country devoid of cart roads, the principal objection to the use of saw mills in the higher hill forests has been that, with *deodar* and to a small extent blue-pine as the only saleable woods, it was difficult to get a sufficient quantity of timber within a conveniently limited area to feed a saw mill without having to shift the mill constantly from place to place at prohibitive expense. Now that blue-pine is readily saleable, and the vast areas of spruce and fir forest are to be regularly worked it should be possible to find sites where saw mills can be established on a semi-permanent basis, and fed for a whole season or more with timber brought down to them by slides and ropeways from the forests above. Ropeways have been indented for, but could not be obtained this year owing to the war; while enquiries are being made for a suitable type of saw mill.

326. With reference to the working of the fir (spruce and silver fir) forests mentioned above, the Forest Department has arranged to supply to the North-Western Railway a number of fir and *chil* sleepers, principally the former, estimated to amount to 390,000 by the end of March 1922 from Bashahr and Kulu. The Railway intends to erect a creosoting plant at Beas, and to treat these sleepers for use on the line. If the results are satisfactory, it is anticipated that large numbers of such sleepers will be used in future. This arrangement is advantageous to the Forest Department in that it will ensure a market for fir timber for the next three years, and will enable the Department to utilize a part at least of the large stock of over-mature trees now standing in the forests, though, on the other hand, the rates the Railway is prepared to pay will yield little financial profit. If a market for fir timber could be established in the Punjab large quantities would certainly be absorbed, and there appear to be possibilities of a trade with Calcutta and Bombay, where imported 'pine' wood, much of which is almost identical with Himalayan fir, is at present selling at very high prices.

Commercial industries.

327. The Indian oleo-resin industry for the production of rosin and turpentine can now be accepted as an established source of supply of these articles; it is now in a position not only to meet the Indian demand, but to build up, with every prospect of success, a sound export business. A second Ropar's unit has been ordered for the Jallo factory, while the United Provinces Forest Department is just completing a 3-unit factory at Bareilly. These two factories will be able to handle some 180,000 maunds of crude resin annually, the gross value of the resulting products being about Rs. 32 lakhs, of which the Punjab share would be Rs. 13 lakhs.

328. The utilization of waste wood and felling refuse offers a favourable field for investigation. There already exists in the Simla Hills a village industry for the extraction of *deodar* wood oil by distillation of the wood

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in primitive clay kilns. An experiment made on the same lines with *chil* felling refuse yielded 16 per cent. by weight of distillate containing turpentine, rosin, and rosin oil, tars and pitch. Such a distillate, treated at a central refinery, should yield valuable commercial products. The quantity of the yield in the above experiment was striking, since the destructive distillation of wood in retorts or masonry ovens does not yield results approaching these; in fact it is only the so-called "chilka" wood, rich in resin, which can be thus treated to any purpose. The development of this embryo industry must, however, await the appointment of a special Utilization Officer in the Punjab; and the same may be said of the match industry, and of the utilization of the various hard woods, such as maple and elm, which grow in large quantities in the hill forests. The woodpulp industry, which has been under consideration off and on for some years past, can be relegated to the background if the market for fir sleepers and timber develops as anticipated.

War supplies.

329. During the year the Munitions Board obtained from the province 442,500 cubic feet of timber exclusive of railway sleepers, for military purposes, as against 3,350,000 cubic feet last year. Most of the timber came from contractors and from the Kashmir State. In addition the Forest Department supplied 25,000 *chir* ballis, 4½ tons of rosin, and 16,545 gallons of turpentine. These figures represent practically only half a year's supplies, as buying was stopped in December owing to the signing of the armistice, when all indents were cancelled; and buying was not resumed until May. A complete report of the activities of the Forest Department in the supply of war material during the past few years has been separately compiled.

Financial results.

330. The financial results are given in section 43; the year's working shows a surplus of Rs. 19,67,660 and a cash surplus of Rs. 5,68,472. The prices of all kinds of timber and firewood continued to be high and the market for resin products was also most favourable.

ARBORICULTURE.

331. The triennial report is due next year.

31.—Mines and Quarries.

Indian Mines Act.

332. The total number of coal collieries and other mines, coming under the Indian Mines Act, worked during the year under report was 22. Of these 4 are Government Salt Mines, 7 coal collieries (5 in Jhelum, 1 in Mianwali, and 1 in Shahpur), while the remainder are slate, lime and stone mines (3 in Gurgaon, 2 in Gurdaspur, 5 in Kangra, and 1 in Hoshiarpur).

333. The total amount of mineral raised and its value, as compared with 1915, 1916 and 1917, is as follows:—

—	MINERAL IN TONS.				VALUE IN RUPEES.			
	1915.	1916.	1917.	1918.	1915.	1916.	1917.	1918.
Coal ...	59,579	47,448	49,868	48,587	3,24,533	3,20,026	3,76,192	5,70,201
Salt ...	154,770	160,356	152,360	158,512	3,94,986	4,09,244	3,88,809	4,04,539
Slate, Stone, Lime.	7,910	3,715	8,860	8,482	1,09,926	1,07,890	1,07,913	1,31,370
Potash ...	...	...	181	134	...	...	928	687

Except in the case of salt, there was a slight decrease in the outturns as compared with 1917. This decrease was in the main due to labour difficulties on account of recruitment, and the influenza epidemic. Selling rates of coal ruled high during the first half of the year, but in the second half prices were fixed by the Deputy Coal Controller. The trade seems to have suffered considerably during the first part of the year owing to the shortage of waggons.

334. Save for the influenza epidemic, the health of the operatives has generally been good and sanitation sufficient.

335. Minerals, which do not come under the Indian Mines Act, are—Gold (by washing), Petroleum, Alum-shale, Block-kankar, Limestone, Gypsum, Antimony-ore, Building and Sand Stone. The outturn and value of these minerals during the year were as follows :— Other Minerals.

District.	Name of Mineral.	Outturn.	Value.
			Rs.
Ambala, Attock and Jhelum	Gold by washing	109·95 ozs.	8,119
Attock	Petroleum	750,000 gallons.	75,000
Mianwali	Do.	807 "	129
Do.	Alum-shale	1,029 tons.	1,400
Ambala	Block-kankar	631 "	706
Jhelum	Limestone	38,415 "	27,103
Do.	Gypsum	1,871 "	1,403
Do.	Antimony-ore	1·4 lbs.	20
Do.	Sand-stone	27,613 tons.	23,441
Simla	Building stone	10,284 "	2,402-8-0

336. The Attock Oil Company and another company are continuing their borings for mineral oil. The former Company struck oil over 3 years ago, but progress has been greatly hindered by the difficulty of getting men and material during the war. It is understood, however, that the company proposes to erect very shortly a refinery for its oil at Rawalpindi.

32.—Manufactures.

337. During the year 1918 the permanent Factory Inspector was on Military Duty, so that the responsibility for the inspection of factories devolved upon Deputy Commissioners. The number of factories registered under the Act again rose from 191 to 203, this increase being chiefly due to the opening of new cotton ginning factories in the districts of Multan, Montgomery, Lyallpur and Amritsar. It is noteworthy that towards the end of the year the Shahdara (Lahore) Cotton Mill, one of the few Spinning Mills in the Punjab, closed down owing to the People's Bank liquidation; its machinery and equipment are being transferred to Bombay. Of 203 registered factories only 176 factories worked during the year. General.

338. The question of making factory inspections by the District Magistrate and his assistants the rule instead of the exception, the prevention of various abuses in factory management brought to light in various districts, and the necessity for making more stringent rules, particularly in connection with the employment of women and children, are under the consideration of Government, but a final decision will not be reached until the return of the Inspector. Similarly the new factory rules published with Punjab Government Notification No. 21433, dated 19th November 1917, are awaiting confirmation.

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Sanitation.

339. As many of the new factories in the canal colonies are not built in accordance with the rules relating to ventilation and lighting, plans have now to be submitted to the Inspector of Factories before being finally approved.

340. Water supply, lighting and general sanitary conditions were on the whole satisfactory, although the annual lime-washing was neglected in the majority of seasonal factories. Ventilation in these factories as a rule leaves much to be desired. The general rise in the wages of unskilled labour was maintained throughout the year.

Accidents.

341. There was a considerable decrease in the number of reported accidents this year as will appear from the following comparative statement of accidents for the last 3 years :—

1916.	*1917.*	*1918.*
190	211	158

It is, however, a matter for regret that the number of fatal accidents—16—is the largest yet reported in any one year, and it is doubtful whether the reported decrease in the number of accidents of all kinds is really in accordance with facts, seeing that the number of operatives has reached the record figure of 39,000.

33.—Trade.

Rail and River Borne Trade.

Harvests.

342. The statistics included in this report, which deals with the triennium ending 1918-19, relate to the spring and autumn harvests of 1916, 1917 and 1918. Sowings were nearly normal in the spring harvests of 1916 and 1917; but owing to the failure of the winter rains the outturn was much below normal in the former and barely up to normal in the latter. In the spring harvest of 1918 weather conditions were, as a rule, favourable at the time of sowing and remained so till the close of the harvest, and the outturn was considerably above normal. The kharif of 1916 was not a bad harvest on the whole, though the yield of jowar was much reduced by excessive rains, and that of cotton also was slightly below normal. The kharif of 1917 was seriously damaged by abnormally heavy rainfall, rice and sugarcane being the only crops that did well. The kharif of 1918, on the other hand, suffered considerably from drought; but the total yield of sugarcane, cotton and rice, which are generally grown on irrigated lands, was rather above normal.

Prices.

343. Prices as a rule were higher in the triennium under review than in the preceding triennium. Much of the increase was due to conditions brought about by the war, though a decrease in production was not one of these. The other general causes of increase of prices, however, namely, increased consumption of articles required in connection with the war, rise in wages, shortage of freight, and expansion of currency and credit have all to a greater or less extent affected this province.

General results.

344. The following table gives the totals of trade exclusive of animals and treasure during the last two triennia :—

—		Exports.		Imports.	
		Maunds.	Value.	Maunds.	Value.
			Rs.		Rs.
1913—16	Total ...	162,885,474	92,97,84,594	189,075,904	96,45,04,993
	Average ...	54,295,158	30,99,28,198	63,025,301	32,15,01,664
1916—19	Total ...	177,098,356	1,24,78,21,786	183,905,195	1,23,38,84,506
	Average ...	59,032,785	41,59,40,595	61,301,732	41,12,94,835

345. As compared with the preceding triennium imports decreased by nearly 3 per cent. in volume, or by nearly 12 per cent. if the articles imported for railway purposes, namely, coal and coke, carriage and trucks, locomotive engines, sleepers and other railway materials be left out of account. The value of imports, however, rose by nearly 28 per cent. Both the decrease in volume and the increase in value were due to the same cause, namely, the rise in prices. Exports increased by 9 per cent. in volume and by 34 per cent. in value. The statistics of trade thus indicate that the prosperity of the province remains unimpaired in spite of the disturbing effects of the war. Taking the triennium under review as a whole the balance of trade was favourable to the Punjab, the total value of exports exceeding the total value of imports by nearly Rs. 1¼ crores.

Exports of grain.

346. The Punjab continues to be essentially an agricultural province and the only manufactured articles exported in any appreciable quantity are Indian woollen piece-goods. The province is not, however, self-sufficing as regards some of the agricultural products. In the triennium under review, for instance, imports of cotton seed, sugar, til, tobacco and rice exceeded exports. It is, however, satisfactory to note that fodder which on the balance was imported in the preceding triennium was exported in the period under review. Grain and pulses constituted 69 per cent. of the total exports as regards volume and 46 per cent. as regards value.

347. As compared with the preceding triennium the net exports of wheat and wheat flour decreased by 48½ lakhs of maunds in quantity and Rs. 81½ lakhs in value. The large decrease was due partly to the fact that the total outturn of wheat was 11 per cent. less than in the preceding triennium and partly to the restrictions imposed on exports. Of the total quantity of wheat and wheat flour exported from the Punjab and the North-West Frontier Province 74 per cent. was despatched to Karachi. Exports to the United Provinces show a considerable falling off as compared with the preceding triennium in which heavy consignments were sent to those provinces owing to the prevalence of famine in 1913-14. The net exports of gram and pulses increased by 37¼ lakhs of maunds in quantity and Rs. 373¼ lakhs in value. The total outturn of gram in *Rabi* 1918 was 90 per cent. above normal and the exports of gram made in 1918-19 were probably the heaviest on record. Owing to the favourable harvests in 1916 and to a lesser extent in 1917 exports of jowar and bajra exceptionally exceeded imports in 1917-18 and 1918-19. The outturn of rice was also much above normal during the period under review, but on the aggregate the imports of rice exceeded the exports despite a steady decrease in the former and a steady increase in the latter.

Other exports.

348. The total outturn of cotton decreased by 17 per cent., as compared with the preceding triennium. The net exports, however, increased by 2¼ lakhs of maunds in total quantity and Rs. 744 lakhs in total value. The market for raw cotton was at first seriously affected by the war, but a large demand subsequently sprang up owing to greater mill consumption in India and heavier exports to Japan and the United Kingdom. Thanks to the good outturn of cotton in *Kharif* 1918 the total exports of the year 1918-19 were nearly double those of the preceding year and above those of any other year subsequent to 1913-14. The exports of oilseeds which had declined in the preceding triennium owing to the stoppage of trade with Germany, the largest customer before the war, showed a substantial recovery in the triennium under review, the total exports exceeding those of the preceding triennium by 3½ lakhs of maunds in quantity and by Rs. 87½ lakhs in value. The exports of wool (raw) increased by nearly 40 per cent. in quantity and by nearly 152 per cent. in value. The net exports of Indian woollen goods have, however, decreased by ten hundred maunds in total quantity and Rs. 5½ lakhs in total value. Much of the demand for these goods, it would appear, ceased with the war. The statistics of the triennium under review which exhibit an increase of 20½ lakhs of maunds in the total quantity and of Rs. 119 lakhs

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in the total value of the net exports of salt, afford a further proof of the growing popularity of the Khewra salt in other provinces, though allowance must be made for the reduction of supplies from Europe. The net exports of saltpetre, the demand for which was sharpened by the war show an excess of 4¼ lakhs of maunds in quantity and Rs. 69¾ lakhs in value. Hides advanced by 2¼ lakhs of maunds in quantity and Rs. 223¼ lakhs in value, while leather rose as much as 16 thousands of maunds in quantity and Rs. 13¾ lakhs in value. An improvement of 2¾ lakhs of maunds in the quantity and of Rs. 64 lakhs in the value of the net exports of liquors from the Punjab affords some indication of the extent to which Punjab breweries are benefiting by the restrictions on the import of beer and ale from other countries.

Imports.

349. The net imports of coal and coke for railway purposes which largely increased during the preceding triennium show a further increase of 113¾ lakhs of maunds in weight and Rs. 115¼ lakhs in value during the period under review. On the other hand, owing to the shortage of rolling stock and the rise of prices the net imports of coal and coke for other purposes which had fallen by 19 lakhs of maunds in the preceding triennium were further reduced by 9¾ lakhs of maunds. The net imports of cotton piece-goods of foreign manufacture declined by two lakhs of maunds in weight and Rs. 189½ lakhs in value. On the outbreak of war there was a sudden drop in the trade in these goods. During the first three of the four subsequent years, imports were above those of 1914-15, though considerably lower than those of the pre-war period but during the last year they fell to a point below that of 1914-15. The improvement that had occurred in the preceding triennium in the trade in piece-goods of Indian manufacture was not maintained in the triennium under review. During this period, the net imports of such goods decreased by three lakhs of maunds in weight, though there was an increase of Rs. 338½ lakhs in value. Owing to the fact that the total outturn of bajra was much above normal in *Kharif* 1916 and only slightly below that standard in *Kharif* 1917 the net import of jowar and bajra decreased by 19¾ lakhs of maunds and 91½ lakhs of rupees. As ample supplies of fodder were available the net imports of cotton seed which is chiefly consumed in the cis-Sutlej territory fell by 31 lakhs of maunds in weight and Rs. 13 lakhs in value. The outturn of sugar was considerably above normal throughout the period under review and imports of that commodity dropped 13½ lakhs of maunds in weight, though the value rose to the extent of Rs. 333¾ lakhs A decrease of 4½ lakhs of maunds in weight and Rs. 62½ lakhs in the value of the net imports of rice is due to a similar cause. Heavy exports of food-grains were responsible for an increase of 1½ lakhs of maunds in the weight and Rs. 189 lakhs in the value of the net imports of gunny bags. Other important articles of merchandise which have been imported in larger quantities in the triennium under review are apparel, chemicals, castor oil, dried fruits and nuts, tobacco, spices and tea, the increase in the imports of some of these articles being obviously due to the improved standard of living. Important decreases have occurred under metals, mineral substances and medicinal preparations, dyes, kerosine oil, paper and pasteboard, carriage and trucks, locomotive engines and silk, owing to the general rise in prices and shortage of freight. In the case of metals, mineral substances and medicinal preparations, however, there was some recovery in 1918-19.

River-borne trade.

350. In 1918-19 imports by the river Indus amounted to 0·4 per cent. of the total imports as regards volume and 0·8 per cent. as regards value. Similar percentages in regard to exports by the river are, respectively, 4 and 3. The principal articles of import are piece-goods, rice, gunny bags, bars, sheets and girders, kerosine oil, sugar and tobacco and the principal articles of export, cotton (raw), hay, straw and grass, grain, rape and mustard and wood. As compared with the preceding triennium the import trade increased by one lakh maunds in volume and Rs. 4¼ lakhs in value, and the export trade by 6½ lakhs of maunds in volume

and Rs. 66½ lakhs in value. No doubt the restrictions in respect of Railway facilities are in some measure the cause of the rise.

Treasure.

351. Owing to the stoppage of the issue of sovereigns and the increased demand for gold in other countries the net imports of gold coin and gold bullion amounted only to Rs. 188 lakhs in the triennium under review as against Rs. 818 lakhs in the preceding triennium. The net imports of silver bullion also decreased from Rs. 408 lakhs to Rs. 84 lakhs. The net imports of silver coin on the other hand increased from Rs. 393 lakhs to Rs. 1,894 lakhs. A comparatively large amount of this coin was required owing to the deficient supply of gold coin. The net imports of treasure in the triennium under review amounted to Rs. 2,169 lakhs against Rs. 1,617 lakhs in the preceding triennium, the increase being chiefly due to large purchases made in the province for war purposes.

Distribution of trade.

352. Karachi continues to be the best customer, though its supremacy is now not so marked owing to the special conditions of the period. Its share of the total exports amounted to 47 per cent. as regards value in the first year of the triennium to 49 per cent. in the second and to 27 per cent. in the third. Almost the whole of the wheat exported is booked to Karachi and in a normal year, much of the cotton is despatched to this port. In the last year of the triennium, only a comparatively small amount of wheat was sent owing to the restrictions on export, while an unusually large proportion of the cotton was exported to Bombay. The United Provinces now occupy only the third place among the customers of the province. Owing to decreased exports of wheat, wheat flour and salt the percentage taken by these provinces in the last year of the triennium under review amounted to 16 per cent. as against 21 per cent. in the last year of the preceding triennium. The other principal customers are (1) Bombay Presidency, (2) Sind and British Baluchistan, (3) Rajputana and Central India and (4) Calcutta, the shares of which in 1918-19 amounted, respectively, to 8, 6, 6 and 6 per cent. In the last year of the period under review 23 per cent. of the imports were received from the United Provinces, 18 per cent. from Calcutta, 17 per cent. from Bombay, 14 per cent. from Karachi, 6 per cent from Bihar and Orissa and 22 per cent. from the remaining sources of supply. As regards the distribution of the trade among the internal blocks, it appears that the Cis-Sutlej territory (excluding Delhi) and the territory between the Jhelum and the Sutlej take nearly 70 per cent. of the imports and supply nearly 86 per cent. of the exports, and that among the other blocks, the first in the order of importance is the Delhi City, the second, the territory between the Jhelum and the Indus and the third, the trans-Indus territory.

TRANS-FRONTIER TRADE.

353. During the triennium ending with the year 1918-19 the figures of imports amount to Rs. 58,09,923 as against Rs. 43,84,511 for the preceding triennium and similarly those of exports to Rs. 88,13,486, as compared with Rs. 49,69,174. These figures indicate that trade—both import and export—is steadily expanding, and that the balance of trade is becoming increasingly favourable to the Punjab. The net imports of treasure during the triennium under report amounted to Rs. 26,69,288, or Rs. 3,34,275 less than the excess of the total value of exports over that of imports.

Trade with Afghanistan.

354. The principal articles imported are non-intoxicating drugs, fruits, hides and skins, ghi and wool, all of which, except fruits, show a decrease as compared with the previous triennium. The variations are ascribed to the diversion of some of the trade to the Quetta Railway, the restriction of export from Afghanistan, and to the competition of local production in the case of certain articles.

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355. The principal articles of export are—Piece-goods (Indian and European), earthenware, rice (husked), leather (unmanufactured and manufactured), iron, sugar (unrefined) and Indian tea (green).

356. The most remarkable features of the export trade during the past six years were (1) that there was no export of European piece-goods during the years 1915-16 and 1916-17; (2) that in both these years there was a larger export of Indian piece-goods than usual; (3) that a large increase occurred in the export of all articles, especially of piece-goods—both Indian and European—in 1917-18; (4) that no green tea has been exported since 1915-16; (5) that in 1917-18 a demand for black tea has sprung up. The decrease in the volume of export in 1918-19 was clearly due to the Marri disturbances which occurred in the spring of that year. The rise in the export of Indian piece-goods at the expense of the European article in 1915-16 and 1916-17 was due to the fact that the prices of the former goods did not respond so quickly as the latter to the war conditions. The supply of tea was probably diverted to the Quetta Railway, the trade of which is not registered in the Punjab. The increase in the volume of exports in 1917-18 is accounted for by the special war conditions which prevented goods being brought from Eastern Europe to Afghanistan, Khurasan and Persia. No movements of treasure have been registered, though the balance of trade during the last triennium has been favourable to the Punjab.

Trade with Central Asia.

357. The chief commodities of imports are—Ponies, sheep and goats, charas, salt, silk (raw) and wool (raw). Goats and sheep are used as carriers for the transport of Tibetan salt, and variations in their imports depend mainly on the demand for this salt. The decrease in the import of charas was due to the fact that there was a heavy rush in the year preceding the triennium under report in order to anticipate the increase of duty which came into force on 1st April 1916, considerable stocks being thus accumulated in the Punjab markets. The larger quantities of Tibetan salt are accounted for by the dearness of the home article. The variation under raw silk—a decrease in weight accompanied by an increase in value—was probably caused by the shortage of supplies from China. The rise in the import of raw wool may be ascribed to war requirements.

358. In the case of exports there has been an increase in the last triennium in all the important articles except skins of sheep, paints, provisions and wool (manufactured). The increase in the export of coral appears to have been due to the return of the trade to its normal proportions. The dislocation of the Russian trade owing to the war and the consequent absence of Russian competition were responsible for the increase in the export of (1) piece-goods, (2) twist and yarn, (3) indigo, (4) other dyes, (5) silk, manufactured, and (6) sugar. The rise in the export of intoxicating drugs is the result of a comparatively large consumption of this article in Turkistan during the prevalence of plague in 1916-17. Leather (unmanufactured) is said to be becoming increasingly popular in Turkistan. The same statement has been made in regard to tea, as regards which, it is also necessary to explain that it was not correctly classified in trade returns prior to November 1916. The falling off under skins of sheep, etc., is ascribed to the partial replacement of Indian skins by skins coming from China proper. Under paints and colours there was a decrease in weight accompanied by an increase in value owing to the scarcity of this article in India. A similar variation occurred in the case of wool (manufactured) owing to a comparatively large demand for this article in India in connection with the war. The conditions brought about by the war were also reponsible for a decrease in the export of other provisions and all other articles of merchandise. The aggregate value of the net import of treasure, including paper money during the last triennium, was Rs. 49,85,673. There were large imports of Russian paper in 1917-18 and 1918-19, the value being Rs. 13,60,961 in the former and Rs. 5,68,922 int he latter year. These imports were

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mostly due to the fact that owing to a considerable difference between the Indian and the Russian rate of exchange large profits could be made from transactions in this paper.

Trade with Tibet.

359. The principal articles of import are--Sheep and goats, borax, skins of sheep, salt and wool (raw). As in the case of Central Asia goats and sheep are used as carriers and tend to increase with any improvement in the import of salt and other commodities. The import of borax has been steadily developing owing to the demand for this article in connection with the war. The larger import of Tibetan salt is accounted for by the smaller supplies of the Indian article. The import of wool advanced to some extent in the last triennium as compared with the preceding triennium, but each of the last two years showed a decline. In 1918-19 this decline appears to have been due to the scarcity of transport and to a diminished supply owing to the deficiency of flocks. The demand for wool has strengthened in consequence of the war, but the supply has not kept pace with the demand.

360. The main staples of export are—Coral, piece-goods (Indian), other spring crops, rice (husked), brass and copper, tea, green and black (Indian), wool, manufactured, and silver. The reason for the increase in the export of coral is not apparent. The decrease in wheat export is due at least partly to the fact that the returns for the previous triennium included much wheat exported from below Sultanpur to Upper Kulu and Lahoul which never reached Tibet. Much of the apparent improvement under other foodstuffs is also fictitious, being due to the transfer of the trade post from Sultanpur to Kyelong. The falling off under rice is the result of a shortage of supplies, while that under brass and copper may be ascribed to the large rise in the price of these articles owing to the war. Wool (manufactured) is neither an important nor a regular item of export. The increase in the value of silver exported to Tibet is said to be accounted for by the fact that before the transfer of the Sultanpur trade post, exports of silver coin were seldom recorded. Exports of tea—both green and black—have considerably increased in the triennium under report as compared with the preceding triennium. Large quantities of both kinds of tea were exported in the first year of the triennium under report, but the demand was not maintained in the subsequent two years; in fact there was no export of black tea in 1918-19. There is, however, plenty of room for the expansion of the tea trade.

Joint Stock Companies.

361. The number of Companies limited by shares has declined by 7 to 76, eight Companies having gone into liquidation, while one was transferred from the North-West Frontier Province. Of the two Companies mentioned last year as moribund, one has been finally dissolved. Three Companies are doing no business and will probably go into liquidation shortly. There are 28 Companies limited by guarantee.

362. Owing to the continued liquidations the authorised capital of public Companies declined by Rs. 21·6 lakhs. On the other hand, subscribed and paid up capital increased by over Rs. 47 lakhs. Three European-managed concerns chiefly account for this increase. The capital of Indian-controlled Companies continues to decline.

34.—Buildings and Roads.

Total Expenditure.

363. The total outlay on public works in the Buildings and Roads Branch during the year amounted to Rs. 78·13 lakhs, an increase of slightly over Rs. 20 lakhs, as compared with last year. Imperial Military and Imperial Civil Works accounted for about two lakhs of this, while Contribution Works were responsible for a further 3 lakhs, the expenditure on Provincial Civil Works being approximately 15 lakhs above the figure of 1917-18.

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Imperial Military Works.

364. On the cessation of hostilities the work on the temporary lines at Ludhiana and Montgomery was stopped and the accounts settled up. A bridge over the Haro river consisting of 10 spans of 42 feet was constructed in about three months as an urgent military necessity.

Imperial Civil Works.

365. The special repairs to Viceregal Lodge, necessitated by the decay of the stone, were continued, while in addition work was commenced on the preparation of the site and realignment of certain roads in connection with the new Telegraph and Telephone Office at Simla designed by the Consulting Architect to the Government of India.

Provincial Civil Works.

366. No important land revenue buildings were constructed during the year. Land was acquired at Charing Cross in connection with the new Civil Secretariat to be built there. The development of the Brockhurst Estate at Simla was commenced with the construction of three large houses which were well advanced towards the end of the year. Quarters for minors under the Court of Wards were built at the Punjab Agricultural College, while the experimental farm buildings at this college were also extended. The erection of a normal school and boarding house at Ghakkar in the Gujranwala District at an estimated cost of Rs. 1·15 lakhs was commenced, while arrangements were in hand for the building of a similar school at Lala Musa. Progress on the construction of the Police Lines at Amritsar was not satisfactory owing to the delay which occurred in securing possession of a part of the site. Police Stations at Thānesar and Nuh were practically finished. The year saw the completion of the Chemical Examiner's Laboratory at Murree while a similar building at Lahore was well in progress. The commencement of work on the laboratory for the Chief Malaria Medical Officer was delayed owing to certain difficulties about the site. A number of rest-houses were under construction in the Attock, Mianwali and Shahpur Districts, while heavy expenditure had to be incurred in a thorough overhaul and repair of the buildings at Fort Munro, which had been damaged by the abnormally heavy monsoon of 1917, and subsequently by the Marri raiders in the spring of 1918.

Communications.

367. Good progress was made on the Fatehjand-Khaur Road, which is to open out the Attock Oil Fields, thanks to the assistance rendered by the Military Authorities in lending two Military Camel Corps for transport purposes. Work on the Larji-Mandi Road which had been interrupted by the war was resumed and the long delayed completion of the first section was in sight towards the end of the year. Work on the second section of this road was commenced on the difficult portion through the Bhabbas cliffs, which it was decided to complete before commencing operations on the more easy lengths. The improvement, involving remetalling, realigning and raising at various places, of that portion of the Multan-Loralai Road, which lies within this province, was seriously taken in hand and satisfactory progress was made.

368. The necessity for the provision of through communication by road for military purposes and the fact that the North-Western Railway were preparing to remodel their bridge over the Chenab river by training the river through a small number of spans, precipitated the construction of a road bridge over the Chenab. Work during the year under review was, however, confined to preliminary measures, such as the burning of bricks, the earth-work on the approaches, the construction of temporary buildings and the collection of plant. Work was also started late in the year on the erection of bridges over the Tangri and Omlah Nullahs on the Grand Trunk Road near Ambala, the completion of which will remove a great obstacle to road traffic during the monsoon.

Miscellaneous Public Improvements.

369. The needle weir to impound the waters of the Chota Ravi as an ornamental lake for Lahore was completed, and considerable progress was made on the roads in the Ravi Park. Footpaths and

tan rides were also extended along certain important roads in Lahore. The construction of markets and the sinking of wells in the towns of Khanewal and Mian Channu in the Lower Bari Doab Colony was taken in hand.

Contribution Works.

370. The King Edward Memorial group of college and hospital buildings was finished. Certain extensions to the Lyallpur Water Works were completed at a cost of about Rs. one lakh, while certain protective works were carried out at Markanda and Ghazipur in the Ambala District.

Famine, Floods, Earthquake.

371. The necessity for famine relief works did not arise during the year, nor was any damage to Government property caused by earthquake and floods. There was, however, a heavy wind storm at Montgomery which blew down about 100 feet of the jail enclosure wall, and also caused considerable damage to the Temporary Lines under construction.

Sanitation.

372. The extensions of the Lyallpur Water Supply have already been mentioned. The extensions to the Dera Ghazi Khan Water Supply have been completed, but trouble is being experienced owing the deposit of calcium carbonate on the strainer wires of the tube wells. An experimental tube well was being sunk in the Empress Gardens at Jullundur, and drainage schemes were either in hand, or completed, during the year, at Rupar, Kalka, Wazirabad, Eminabad, Lala Musa, Bhera and Gurdaspur.

373. The Sanitary Sub-Division formed last year to secure specialised control over sanitary works in connection with Provincial properties in Lahore has done excellent work, and enabled the Sanitary Engineer to keep a much closer control over these undertakings.

Consulting Architect.

374. The value of the work designed in the Consulting Architect's office continues to increase. The Charing Cross Scheme advanced one stage further with the completion of the Masonic Hall and the laying out of roads, paths and grass. In connection with the King Edward Memorial the Chaubara of Chhajju Bhaggat was partially repaired and now presents a picturesque appearance. Six houses have been built and three more designed and commenced in connection with the Gazetted Officers' Residences Building Scheme, Lahore. Two pairs of entrance gates were fixed at Government House, Lahore.

375. The alterations carried out to the surroundings of the Punjab University have been completed, and considering the difficulties presented by the varying angles at which the existing buildings stand, the work satisfactorily realises the object in view. Three houses, already mentioned in connection with the Brockhurst Estate, Simla, were designed by the Consulting Architect, who has also under consideration designs for a set of flats to be built on the site of Brockhurst House and also plans for other houses for officers and quarters for clerks on this estate. Preliminary designs and models were also prepared for the conversion of the Chief Court into a High Court, while other works, which may be mentioned, are the Punjab Light Horse Headquarters, and certain schools in various parts of the province.

Electrical Engineer.

376. The Electrical Engineer continued to act as Electrical Engineer to the North-Western Railway, and as Electrical Adviser to the Bahawalpur and Jind Darbars, in addition to his own duties. He also undertook the duties of Electrical Adviser to the Government of India for six weeks. No new Electrical projects were prepared during the year under review, but a preliminary application for a license for the supply of electricity in the Cantonment and Municipal Area of Rawalpindi was received, and was under the consideration of the Military authorities.

Establishment.

377. Subsequent to the cessation of hostilities a certain number of officers were returned to Civil employ, but many more were either granted leave on demobilisation, or continued in Military employ to the end of the year under review. Owing to the increased amount of work carried through and the still depleted state of the cadre the establishment charges dropped to the low figure of 14·4 per cent. of the works outlay.

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34-A.—Railways.

378. No new lines were opened and the booking of goods had still to be restricted in order to give preference to essential military and export traffic.

35.—Irrigation.

General.

379. The direct receipts and expenditure during the year amounted to Rs. 2,86,35,084 and Rs. 1,27,83,394, respectively, as compared with Rs. 2,72,66,487 and Rs. 1,53,64,828, the average of the triennium ending 1917-18. The expenditure, as divided between capital and working expenses, was Rs. 11,61,878 and Rs. 1,16,21,516, respectively, the former sum being the net expenditure after deducting an amount of about Rs. two lakhs, which was realized from the sale of surplus stores and tools and plant and recovered from the cultivators on account of cost of water-courses.

380. The indirect revenue, credited to the canals on account of enhanced land revenue, amounted to Rs. 1,45,55,293 as against Rs. 1,21,59,256 the average of the previous triennium.

381. The total area irrigated by works of all kinds under the control of the Irrigation Department was 9,015,984 acres showing a decrease of 47,917 acres and 209,298 acres, as compared with the previous year and the average of the previous triennial period.

382. The capital outlay (direct and indirect) incurred on canals classed as Productive Major Irrigation Works amounted to Rs. 12,06,387 bringing the total capital cost of those works to about Rs. 2,400 lakhs, including Rs. 155 lakhs contributed by Native States. The net revenue earned by Imperial canals was Rs. 3,03,00,511, yielding a profit of Rs. 13·50 per cent. on the capital invested to date (Rs. 22,45,11,551).

383. The area irrigated by, and the financial results of, the operations of canals classified as Productive Major Works are shown in the following statement :—

1	2	3	4	5	6	7	
						Percentage profit on the Capital outlay.	
Serial No.	Name of Canal.	Area Irrigated.	Gross Income.	Working Expenses.	Net Income.	Excluding interest charges.	Including interest charges.
		Acres.	Rs.	Rs.	Rs.	Rs.	Rs.
1	Western Jumna ...	720,532	(a) 28,75,154	(a) 13,41,447	(a) 15,33,707	(a) 8·66	(a) 5·33
2	Sirhind ...	1,425,401	(b) 28,67,716	(b) 11,81,868	(b) 16,85,848	(b) 6·56	(b) 3·24
3	Upper Bari Doab ...	1,065,049	51,06,423	13,22,309	37,84,114	16·89	13·57
4	Lower Bari Doab ...	678,004	46,93,839	11,71,904	35,21,935	15·55	12·15
5	Upper Chenab ...	426,864	19,87,335	12,80,996	7,06,339	1·97	–1·41
6	Lower Chenab ...	2,339,198	1,66,24,247	23,74,976	1,42,49,271	43·85	40·44
7	Upper Jhelum ...	246,609	8,00,505	7,37,645	62,860	0·14	–3·27
8	Lower Jhelum ...	777,496	42,77,101	8,60,215	34,16,886	20·49	17·13
9	Upper Sutlej Inundation Canals.	258,499	8,40,909	3,76,397	4,64,512	25·63	22·33
10	Sidhnai Canals ...	229,397	8,11,923	95,788	7,16,135	53·82	50·43
11	Indus Canals ...	181,097	4,29,790	2,70,886	1,58,904	5·33	1·94
	Total ...	8,348,146	4,13,14,942	1,10,14,431	3,03,00,511	13·50	10·12

(a) Excludes Patiala State.

(b) Excludes Native States—Patiala, Nabha and Jind.

384. On all the Imperial Minor Works not classed as Productive, including the two canals for which a Capital Account is kept, the net profit amounted to Rs. 8,02,145, as compared with Rs. 12,36,137 in the previous year.

385. There is only one Provincial Canal in operation, *viz.*, the Shahpur Provincial Canal, the Ravi Inundation Canals having now ceased to exist. The net profit was Rs. 2,595.

386. The details of the working of each canal will be found below.

MAJOR WORKS—CANALS IN OPERATION.

Western Jumna Canal.

387. The canal was in flow for 329 days (167 days in *Kharif* and 162 days in *Rabi*) and was closed for 36 days (16 days in *Kharif* and 20 days in *Rabi*) during the year. The *Kharif* season started inauspiciously as the monsoon rains, with the exception of a few showers early in June, commenced only in the middle of August, lasted for a fortnight and failed entirely thereafter. Winter rains commenced at the end of January and continued during February and March, to the great benefit of the standing crops. The total area irrigated, including the area irrigated in the Patiala and Jind States, was 720,532 acres (349,172 acres in *Kharif* and 371,360 acres in *Rabi*), as compared with 792,955 acres (360,763 acres in *Kharif* and 432,192 in *Rabi*), the average of the previous triennium. The decrease in the area irrigated during *Kharif* was due to the early failure of the cotton crop owing to the ravages of grasshoppers, while the influenza epidemic during October and November and the earlier failure than usual of the supply in the river were responsible for the poor results in the *Rabi* season.

388. The gross receipts under *Imperial* were Rs. 28,75,154 and the working expenses Rs. 13,41,447, giving a net revenue of Rs. 15,33,707, as compared with Rs. 17,79,926, the average of the previous triennium and Rs. 19,43,112 in the previous year. The falling off was due to the decrease in the area irrigated during *Rabi* 1917-18 and *Kharif* 1918, the assessment on which was collected during the year.

389. The net revenue received by the Patiala State on their channels on the Sirsa Branch amounted to Rs. 197,075, or 16·98 per cent. on the capital cost invested, against an average of Rs. 1,62,968, or 14·04 per cent. for the triennium ending 1917-18 and Rs. 2,20,460, or 19 per cent. in the previous year.

390. The working of the Jind State Distributaries showed a profit of Rs. 83,959 against Rs. 1,36,391 in 1917-18. The area actually irrigated was 56,400 acres, as compared with 60,602 acres, the average of the three preceding years.

Sirhind Canal.

391. The Canal was closed for 12 days only in the *Kharif* season (10 days in the early months and 2 days after the rainfall of August) owing to lack of demand and was in flow throughout the *Rabi*. The *Kharif* season was remarkable for the almost complete failure of the monsoon, the rainfall being generally less than half the normal. After the rain in April, which was in excess of the average, practically no rain fell, except in the third week of August. In *Rabi* the winter rains were timely and slightly in excess of normal throughout most of the tracts served by the canal.

392. The area irrigated on British and Native States Branches was 1,425,401 acres; practically the same as in 1916-17, a total which has been exceeded only three times. It would be misleading to compare the figures of the year with those of 1917-18 as in that year the rainfall was more than double the normal, while the area irrigated was less than two-thirds of the average.

393. The net revenue earned by the British Branches amounted to Rs. 16,85,848, giving a return of Rs 6·56 per cent. on the capital invested. The corresponding figure for the previous year was

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Rs. 21,80,527, or 8·51 per cent. The decrease was due to (*a*) the poor *Rabi* area in 1917-18, collections for which were made in 1918-19, and (*b*) an uncollected balance of Rs. 1,52,022 for which the Native States were responsible. The working expenses were Rs. 11,81,868 or Rs. 72,623 less than in the preceding year working out to Rs. 1·33 per area irrigated, against Rs. 2·27, the highest on record, in the preceding year.

394. On the Native States Branches, the net revenue was Rs. 12,00,540, or 8·38 per cent. on the capital invested as compared with Rs. 13,17,444, or 9·20 per cent. in 1917-18.

Upper Bari Doab Canal.

395. The area irrigated was 1,065,040 acres against 1,144,521 acres during the preceding year. The decrease was due chiefly to the failure of the monsoon, and to the river remaining very low throughout the year.

396. The net income amounted to Rs. 37,84,114 equivalent to 16·89 per cent. on the capital invested, compared with 16·52 per cent. of the previous year. Remission of occupier's rate amounted to Rs. 41,237 against Rs. 3,04,973 in 1917-18. Remissions were due largely to the damage caused by insects owing to insufficiency of rain.

397. The canal was closed from 31st January 1919 to 15th February, when all falls were unwatered and repaired where necessary. The year under report was unfavourable for agricultural operations on this canal, as real monsoon conditions did not set in until the middle of August and ended as early as the first week in September. The canal supply was below indent from 11th September to 25th March 1919.

Lower Bari Doab Canal.

398. The canal was in flow for 305 days (166 days during *Kharif* and 139 days in *Rabi*) as against 323 days in the previous year.

399. The demand for canal water was keen throughout the year, rainfall being scanty, especially during the *Kharif* and the first half of the *Rabi* season. In the winter the river supplies were low, but timely showers in January saved the situation, which would otherwise have been critical.

400. The area irrigated was 678,004 acres as against 871,308 acres anticipated in the Project forecast. In 1917-18 with a similar forecast the irrigation was 621,600 acres. As remarked in paragraph 370 of last year's report, the progress of canal irrigation is a year behind that of the Project Estimate, owing chiefly to the Upper Jhelum Canal having been opened a year later than had been anticipated and also to the backwardness of colonization.

401. The gross receipts amounted to Rs. 46,93,839, the working expenses to Rs. 11,71,904 and the net revenue to Rs. 35,21,933. The receipts were about 28 lakhs more than those of the preceding year, and the net revenue gave a return of 16·3 per cent. on the capital invested as against 5·3 per cent. in the previous year. This was due to (*a*) the development of irrigation, (*b*) an increase under miscellaneous receipts from water power, (*c*) an increase in the credit at 4 per cent. per annum on the amount realized from sales of waste land, (*d*) and also to the fact that the credit of Rs. 17,10,221 on account of the land revenue and malikana in the Montgomery District was allowed for the first time during the year and included arrears for six previous years.

402. The area of the crown waste lands allotted at the end of the year amounted to 934,063 acres out of the 1,016,972 acres of the culturable area commanded. Great assistance to the working of channels was afforded by the large increase in temporary allotments of land.

Upper Chenab Canal.

403. The area irrigated during the year under review was 426,864 acres, as compared with 382,935 acres in the previous year

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and the Project Estimate of 648,367 acres. The *Rabi* figures (222,170 acres) showed an appreciable improvement over that of the previous years, but the *Kharif* area (204,694 acres) was disappointing. The poor results during *Kharif* were attributable partly to deficient rainfall and partly to the fact that the *Kharif* Full Supply Factor on which the capacities of the distributaries channels have been based, had been wrongly calculated in the Project Report for the class of crops grown. Delay in the construction of watercourse systems, pending final settlements of the complicated question of canal irrigation of well areas in certain zones, also militated against the development of irrigation.

404. The net revenue amounted to Rs. 7,06,339, or 1·97 per cent. on the capital outlay. As remarked in last year's report, this canal is, in great measure, a feeder channel for the Lower Bari Doab Canal, so that, as a commercial concern, it cannot be judged by its own financial results.

Lower Chenab Canal.

405. The canal was in flow for 171 days in *Kharif* and 175 days in *Rabi* and was closed at the head for 12 days in *Kharif* and 7 days in *Rabi*.

406. The *Kharif* season was a dry one and demand for water was very keen. The *Rabi* rainfall, though poor, was very beneficial to the standing crops.

407. The area of 2,339,198 acres irrigated during the year, of which 795,545 acres were irrigated during the *Kharif* season alone, was the largest ever recorded. The slight decrease in the *Rabi* figures, as compared with the similar figures of 1917-18 and with the average of the previous three such crops was attributable to the deficiency of rainfall and to the severe influenza epidemic during sowing time as well as to rotational closures having commenced during the critical period of wheat sowing.

408. The net revenue amounted to Rs. 1,42,49,271, or 43·85 per cent. on the capital outlay as against Rs. 1,28,02,664, or 39·37 per cent. in the previous year. This favourable result was mainly due to—

(*a*) the record area irrigated during *Kharif* 1918;

(*b*) the absence of any debit in connection with the cost of Civil Administration in the Lyallpur District. In 1917-18 a sum of Rs. 8,34,000 was deducted on this account; and

(*c*) a greater area of higher rated crop having been matured during the *Rabi* crop of 1917-18 and *Kharif* 1918.

409. The accumulated net profits after defraying interest charges, have increased from Rs. 13,88,42,183 to Rs. 15,19,86,744 against a capital outlay of Rs. 3,24,96,216 invested at end of the year.

Upper Jhelum Canal.

410. This was the third year of irrigation on this canal. The area irrigated (246,609 acres) showed an increase of 69,603 acres over the figures of the preceding year, but was still short by 98,391 acres of the Project Estimate. This deficiency was due to—

(*a*) an unavoidable delay of a year in the opening of the canal;

(*b*) the epidemic of influenza that impeded cultivation and the development of new irrigation; and

(*c*) recruiting activities which made a heavy call on the agricultural classes.

411. The gross income from all sources amounted to Rs. 8,00,505 and the working expenses to Rs. 7,37,645, resulting in a profit of Rs. 62,860, or 0·14 per cent. on the capital invested. Last year there was a slight loss, but the expenditure incurred on this canal is largely in the interests of the Upper Chenab and the Lower Bari Doab Canals.

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412. The gradual raising of the supply in the main line was carried on successfully during the year and all ordinary demands for water supply can now be met.

413. The Mangla Division was amalgamated with the Jhelum Division during the year under report.

Lower Jhelum Canal.

414. The area irrigated was 251,601 acres in *Kharif* and 525,895 acres in *Rabi*, as compared with 231,872 acres and 533,598 acres in the corresponding crops of the preceding year. The *Kharif* season opened unfavourably and showed no improvement throughout, yet the area irrigated exhibited improved results owing to increased cotton and fodder sowings, encouraged by higher prices. The decrease during *Rabi* was mostly due to a shortage of water in October and to the prevalence of a very severe influenza epidemic during the months of October and November 1918. The canal was closed at its head for 14 days during *Kharif* and for 3 days during *Rabi* for special repairs. The demand for water was keen and the supply was generally sufficient throughout the year, except in October 1918.

415. The gross receipts and the working expenses were Rs. 42,77,101 and Rs. 8,60,215, respectively, giving a net revenue of Rs. 34,16,886, or 20·49 per cent. on the capital outlay to the end of the year. This was about 1 per cent. less than that of the preceding year due to—

(*a*) an increase of about Rs. 1,60,000 in the capital outlay ;

(*b*) the decrease in the area irrigated during *Rabi* 1917-18 (the revenue on which was collected during the year), caused partly by a large *barani* area which was sown and matured without receiving canal water and partly by the shortage of labour on account of recruiting activities and the prevalence of exceptionally severe malaria at the time of the *Rabi* sowings.

Upper Sutlej Inundation Canals.

416. The net area assessed (243,597 acres) was less by 93,006 and 89,785 acres, respectively, as compared with the averages of the two triennia ending 1914-15 and 1917-18. This was quite satisfactory taking into consideration the fact that the monsoon of 1918 commenced only in the middle of August and ceased early in September, and that the river ran low much earlier than usual, in consequence of which the *Kharif* and *Rabi* crops which required water during September, suffered severely.

417. The gross income amounted to Rs. 8,40,909 and working expenses to Rs. 3,76,397, giving a net revenue of Rs. 4,64,512 or 25·63 per cent. on the capital invested. In the preceding year the figures of net revenue and the percentage were Rs. 3,67,920 and 20·24. This favourable result was due to the very good *Rabi* crop of 1917-18, the revenue for which was collected during the year.

Sidhnai Canal.

418. The irrigation effected was 121,212 acres in *Kharif* and 108,185 acres in *Rabi*, as compared with 131,207 acres and 187,235 acres in the corresponding crops of the previous year. The percentage of the failed crops was 21·15 in autumn and 9·31 in spring as against 19·97 and 8·29, respectively, in 1917-18. The high percentage of *kharaba* was due to low supply in the river Ravi at the head of the Sidhnai Canal.

419. The total income from all sources amounted to Rs. 8,11,923 and the working expenses to 95,788, giving a net revenue of Rs. 7,16,135, or 53·7 per cent. on the capital outlay against Rs. 5,42,856, or 40·75 per cent. in the preceding year.

420. The outstanding feature of the working of this canal during the year was that the winter supply was very deficient and in consequence wheat could not be sown extensively.

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Indus Inundation Canals.

421. The area irrigated was 121,144 acres in *Kharif* and 59,953 acres in *Rabi* as compared with 140,042 and 64,171 acres, respectively, in the preceding year. The decrease was due to short supply and poor soil. The year was one of unusual dryness owing to inadequacy of rainfall and low supply in the river; consequently the canals generally worked badly.

422. The total income from all sources and the working expenses amounted to Rs. 429,790 and Rs. 2,70,886, respectively, thus yielding a net profit of Rs. 1,58,904 as against Rs. 42,508 in the preceding year and an average of Rs. 72,587 in the previous triennium.

Minor Irrigation Works.

Shahpur Imperial Canals.

423. The canals were opened in May and closed as early as August owing to low supply in the river.

424. The area irrigated was 16,727 acres as against 42,633 acres in the preceding year and 38,720 acres, the average of the previous triennium. The decrease was due to the lowness of the river.

425. Revenue was remitted on 4,755 acres, including 1,140 acres on account of short supply, and 2,810 acres in consequence of bad germination.

426. The net revenue of Rs. 18,087 brought a return of 8·04 per cent. on Rs. 2,25,021, the capital outlay up to date.

Ghaggar Canals.

427. The operation of the year resulted in a loss of Rs. 8,514, which is equivalent to 2·24 per cent. on the capital outlay, as compared with a loss of Rs. 12,165, or 3·23 per cent. in the preceding year. The question of the financial position of these canals was referred to the Financial Commissioners, Punjab, in May 1918, who have decided to defer consideration until after the completion of the settlement operations in the Sirsa Tahsil of the Hissar District, which were commenced on 1st October 1919.

Lower Sutlej Inundation Canals.

428. The gross area irrigated was 189,916 acres as against 365,184 acres in the preceding year and 327,547 acres, the average of the previous triennium. Absence of any rain of appreciable intensity and shortage of water in the canals as a result of a low river, accounted for the deficient irrigation. *Rabi* sowings were also delayed on account of influenza. Certain lands on the Hajiwah Canal were also damaged by locusts during September. The failed area was 44,636 acres, as compared with 63,155 acres during the preceding year.

429. The net revenue amounted to Rs. 1,91,712 against Rs. 4,16,395 in 1917-18.

Chenab Inundation Canals.

430. The river Chenab rose sufficiently high early in May, but this rise continued only for a short period and the river then dropped much below its normal level. The supply was poor throughout and the canals had to be run by rotation until September when, as a result of the low river level, operations had to cease.

431. Both the irrigated and assessed areas (126,629 acres and 98,123 acres, respectively) were poor this year owing to the early closure of the canals.

432. The net income amounted to Rs. 3,02,111 as against Rs. 3,92,373 in the preceding year.

Muzaffargarh Inundation Canals.

433. The year was very unfavourable from an irrigation point of view, yet owing to judicious distribution of the available supply, results were better than might have been expected under the adverse conditions which obtained. The area irrigated was 308,563 acres as against 385,075 acres in the preceding year and 386,976 acres, the average of the previous triennium.

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434. The net revenue amounted to Rs. 2,98,749 against Rs. 3,64,448 in 1917-18.

Shahpur Provincial Canals.

435. The area successfully matured and assessed was only 12,021 acres, as compared with 23,706 acres during the preceding triennium. The decrease was due to unfavourable conditions of the river and the absence of timely rainfall during the year.

436. The revenue was remitted on 119 acres on account of short supply and on 369 acres by reason of bad germination. Besides this 674 acres also received remission under Tenancy Rules.

437. The working operations showed a net profit of Rs. 2,595 explained partly by the curtailment of expenditure on maintenance and repairs and partly by an adjustment of establishment charges proportionately according to works outlay instead of the debit of the fixed amount of Rs. 24,000 per annum.

CHAPTER V.

REVENUE AND FINANCE.

Detailed information on the subjects dealt with in this chapter will be found in the reports and statistical tables noted below :—

PROVINCIAL REPORTS.

Land Revenue.—Report on the Land Revenue Administration of the Punjab for the agricultural year ending 30th September 1918.

Canal Revenue.—Administration Report of the Irrigation Department, Punjab, for the yaar 1918-19.

Excise and Opium.—Report on the Excise Administration of the Punjab for the year 1918-19.

Stamps.—Report on the Administration of the Stamp Department of the Punjab for the year ending 31st March 1919.

Income-tax.—Report on the Income-tax Administration of the Punjab for 1918-19.

Forests.—Progress Report of Forest Administration in the Punjab for 1918-19.

Provincial Revenues.—Audit and Appropriation Report on the Accounts of the Punjab for 1918-19 and Review of the Annual Accounts of the Punjab for the year 1918-19 published in the *Punjab Gazette*, dated $\frac{\text{April 18, 1919}}{\text{October 24, 1919}}$, Supplement Part II.

Local Funds.—Report on the Administration and Accounts of the District Boards in the Punjab for the year 1918-19.

Municipal Revenues.—Report on the working of Municipalities in the Punjab during the year 1918-19

PUBLICATIONS OF THE GOVERNMENT OF INDIA.

Statistical Abstract for British India, Volume I—Commercial Statistics.

Volume II—Financial Statistics.

Volume IV—Administrative and Judicial (including area, population and local funds).

Salt.—Report on the Administration of the Northern India Salt Revenue Department for the official year 1918-19.

36.—Gross Revenue and Expenditure.

438. The following table shows the receipts under the various heads of revenue, excluding revenue from salt, in the year under report :—

(In thousands of rupees).

Major Heads.	Imperial.	Provincial.	Total.	+ more − less on figures for 1917-18.
Land Revenue	1,42,72	1,42,72	2,85,44	− 26,38
Opium	10,05	...	10,05	+ 2,63
Stamps	30,69	30,69	61,38	+ 1,38
Excise	52,59	52,59	1,05,18	+ 19,55
Provincial rates	...	31	31	+ 10
Customs	23	...	23	+ 1
Income tax	21,55	18,77	40,32	+ 4,29
Forests	...	21,54	21,54	+ 36
Registration	...	4,06	4,06	+ 25
Tribute	1,45	...	1,45	+ 1
Interest	3,26	2,37	5,63	+ 64
Law and Justice—Courts of Law ...	...	6,53	6,53	− 28
" " —Jails	...	6,76	6,76	− 1
Police	...	1,86	1,86	− 41
Education	...	5,33	5,33	+ 8
Medical	...	76	76	+ 31
Sanitation	...	1,62	1,62	+ 35
Agriculture	...	7,00	7,00	+ 3,68
Scientific and Miscellaneous	...	30	30	+ 1
Receipts in aid of Superannuation ...	1,06	67	1,73	− 36
Stationery and Printing	77	92	1,69	+ 2
Miscellaneous	5,17	9,46	14,63	+ 3,87
Irrigation—Major Works	2,06,53	2,06,53	4,13,06	+ 34,83
" —Minor Works	8,22	1,03	9,25	− 2,03
Civil Works	1,05	4,28	5,33	+ 68
Transfers between Imperial and Provincial ...	−46,75	46,75	...	...
Total ...	4,38,59	5,72,85	10,11,44	+ 43,58

439. The gross expenditure, excluding expenditure of the Salt, Military, Railways, Post Office and Telegraph Departments and Capital expenditure on canals, was as follows :—

(In thousands of rupees.)

Major Heads.	Imperial.	Provincial.	Total.	+ more — less on figures for 1917-18.
Refunds	1,16	1,25	2,41	— 3
Assignments	56	34	90	— 3
Land Revenue	...	49,38	49,38	+ 2,79
Stamps	98	98	1,96	+ 10
Excise	1,17	1,17	2,34	— 1
Income-tax	29	29	58	+ 25
Forests	...	17,96	17,96	+ 6,38
Registration	...	1,34	1,34	+ 7
Interest	2,06	1,83	3,89	+ 10
General Administration	4,07	12,27	16,34	— 48
Law and Justice—Courts of Law ...	...	46.21	46,21	+ 1,73
„ „ „ Jails	...	23,38	23,38	+ 3,94
Police	...	71,23	71,23	+ 5,01
Education	...	53,03	53,03	+ 8,56
Ecclesiastical	2,76	...	2,76	+ 14
Medical	...	11,60	11,60	+ 2,34
Sanitation	...	8,06	8,06	— 1,75
Political	7,20	...	7,20	+ 1,28
Agriculture	...	16,83	16,83	+ 3,20
Scientific and Miscellaneous ...	...	1,69	1,69	+ 29
Pensions, Territorial and Political ...	70	...	70	+ 1
Superannuation	15	25,91	26,06	+ 18
Stationery and Printing	21	8.44	8,65	+ 1,35
Miscellaneous	73	19,48	20,21	+ 4.42
Famine Relief	50	16	66	+ 71
Irrigation, Major Works	51,52	51,51	1,03,03	— 76,03
„ Minor Works	9,37	4,12	13,49	+ 1,92
Civil Works	17,75	70,33	88,08	+ 30,84
Total ...	1,01,18	4,98,79	5,99,97	— 2,73

37.—Land Revenue.

440. The Land Revenue Report gives the figures for land revenue according to the agricultural year which ends on the 30th September. There must consequently always be a difference between the total collections as calculated by the Treasury on the financial year and the yearly returns furnished by the Financial Commissioners' Office.

441. For the year ending 30th September 1918 the following are the figures of collections including those on account of previous years, comments on which have already been made in section 10 dealing with demands :—

	Rs.
Fixed Land Revenue	2,31,34,595
Fluctuating Land Revenue ...	1,44,26,061
Temporarily excluded from fixed Land Revenue Roll	47,596
Other Land Revenue	46,52,891
	4,22,61,143

38.—Irrigation.

442. The total capital invested up to the end of 1918-19 on canals in operation classed as productive major works was Rs. 22,45,11,551. Capital expenditure during the year amounted to Rs. 12,06 387. The income from all sources, excluding refunds, was Rs. 4,13,14,942, while

working expenses totalled Rs. 1,10,14,431 and interest charges came to Rs. 75,68,775. The net profit left was thus Rs. 2,27,31,736 comparing with a sum of Rs. 1,92,15,030 in the previous year.

443. The balance profit on Imperial Canals, Minor Works not classed as productive, was Rs. 8,02,145 as against Rs. 12,36,137 in 1917-18. Provincial canals return a small profit of Rs. 2,595, as compared with Rs. 17,179.

39.—Excise.

444. The issues of Indian-made beer rose 18 per cent. above those in the previous year and the total duty realised increased from Rs. 7,44,741 in 1917-18 to Rs. 8,55,384 in 1918-19 : a betterment of nearly 15 per cent. Nearly ⅞ths of the total issues were consumed by the troops. Beer.

445. The consumption of country spirit (both plain and spiced) amounted to 457,000 proof gallons, being 14 per cent. above that of 1917-18 (398,000 proof gallons). The chief cause of this rise was the increased resort to liquor during the prevalence of the influenza epidemic in the autumn of 1918 as a prophylactic against the disease. Another cause was the recruiting campaign in the Province from April 1918 to the end of September 1918. The rural population obtained higher prices for their agricultural produce and in the towns the working classes secured a higher scale of wages. All these were potent contributory causes which led to greater consumption despite the great enhancement in retail prices. Notwithstanding the increased consumption the convictions for drunkenness were less than usual, namely, 753 against 835 last year. Country spirit.

446. There has been a decrease in the consumption of opium (from 57,760 seers to 53,372 seers) by 7 per cent., as compared with 1917-18. The enhancement of the issue price from Rs. 27-8-0 to Rs. 32-8-0 contributed not only towards increasing the revenue under this head, but also towards checking consumption. The issues to vendors were restricted and fixed according to legitimate requirements. The policy of reducing the number of retail shops to the minimum requirements of a district was followed in certain districts and the arrangement is being extended during the current year. The total receipts from opium rose from Rs. 18,32,425 to Rs. 22,20,127, an increase of Rs. 3,87,702, or 21 per cent. on the figures for 1917-18. Opium.

447. The consumption of charas declined from 23,108 seers in 1917-18 to 20,271 seers in 1918-19, and that of Bhang from 95,414 seers to 93,869 seers, as compared with 1917-18. Hemp Drugs.

448. The sales of cocaine to the public fell from 7,613 grains to 6,652 grains during the year under report. Cocaine.

449. The distilleries in the Punjab had again to contend with the same difficulties as last year in the matter of the supply of distilling bases and coal. There was also a great scarcity of Java solidified molasses, a dearth of gur and of casks. The total issues, however, of country spirit (8,19,516 gallons) exceeded those of the previous year by 36 per cent., including 155,828 gallons issued in bond to Sind. This was entirely due to the great demand brought about by the causes enumerated above. Distilleries.

450. The gross income rose from Rs. 85,21,350 in 1917-18 to Rs. 1,04,57,927 in 1918-19. Receipts.

40.—Salt Revenue.*

Cis-Indus and Kalabagh Mines.

451. The year's output from the Khewra Mine was the largest up to date and standing at 4,189,859 maunds was over 9 lakhs in excess of the previous year's production. The figures for the Warcha and other mines are not available.

*Note.—The information relating to Salt Revenue is incomplete owing to delay in connection with the report.

452. The price of salt throughout the Salt Range Division remained unchanged at 1 anna and 6 pies per maund. In the year under report there was a net loss of Rs. 46,569, as compared with a net profit of Rs. 82,805 in 1917-18, the deficit being chiefly due to the high cost of coal and labour.

453. The through-traffic receipts for the Division amounted to Rs. 90,969, while the charges totalled Rs. 54,057. The latter, however, do not include the interest on capital expenditure incurred in connection with, and the leave and pensionary charges on account of, the establishment employed on through traffic work.

MANDI MINES.

454. Sales from the Mandi Mines amounted to 131,922 maunds, being 1,879 maunds less than in the previous year. The price of salt at the mines is Re. 0-10-6 per maund and the duty Re. 0-3-9.

SULTANPUR SALT WORKS.

455. Though only one more work was licensed than in 1917-18, the Sultanpur manufacturers more than doubled their output of recent years, the year's total amounting to 58,182 maunds. Clearances similarly rose and the average sale price jumped from Re. 0-8-8 to Re. 1-0-9 per maund.

41.—Stamp Revenue.

456. Receipts under the "Stamp and Court Fees Acts" amounted to Rs. 61,42,960, a sum exceeding the income of the previous year by Rs. 1,36,166. Of the total receipts for the year under review, Rs. 37,67,297 were derived from the sale of court fee stamps, and this sum is Rs. 64,292 less than the figure for the preceding year. Generally speaking, the income was adversely affected by the failure of the *kharif* harvest of 1918, the influenza epidemic, high prices and the absence of a large number of Indian soldiers on active service. The sale of non-judicial stamps, however, realized Rs. 23,02,385, which is Rs 2,12,494 above the last year's return. The greater portion of the income from non-judicial stamps was derived from the vend of non-judicial impressed stamps or sheets, the receipts from which rose from Rs. 16,38, 05 to Rs. 18,50,739. There were large increases in such receipts in six districts, *viz.*:—Lahore, Amritsar, Rawalpindi, Simla, Ambala and Sialkot, the figures in Lahore, Amritsar and Simla denoting the rapidly increasing value of immovable property in urban areas. Decreases were shown by six districts, but in Ferozepore only was the falling off noticeable. It is attributed to a bad harvest and less borrowing of money.

457. The expenditure of the Department rose from Rs. 2,36,859 in 1917-18 to Rs. 2,37,496 in the year under report. The figures for 1918-19 do not, however, include the expenditure in the Gujranwala District, as the figures are not available owing to the destruction of district records in the disturbances of April 1919.

42—Income-tax.

458. The collections during the year including arrears pertaining to previous years amounted to Rs. 36,20,810, a rise of 6 per cent., as compared with realisations in the previous year. Uncollected balances pertaining to 1917-18 and all previous years amount to Rs. 5,031, while the arrears for 1918-19 alone amount to Rs. 15,20,855. These heavy arrears are due partly to the fact that the Income-tax administration was in a state of flux so that assessments were announced very late in the year and partly to the abolition of the old system of the objection procedure. Those who would have under the old system objected to the Deputy Commissioner appealed to the Commissioner with th

result that hundreds of petitions remained pending with Commissioners on the expiry of the year.

459. Four Special Income-tax Officers worked in various parts of the province and assessed urban areas and important trade centres. The assessments made by this special agency secured an increase of Rs. 9 lakhs (Rs. 9,00,000). The assessments were on the whole done with care.

460. Considerable difficulty was experienced by assessing officers on account of the real or assumed inability of assessees to furnish the prescribed returns. The general explanation offered throughout the province for the failure was that the returns were much too complicated and could not be filled up with any degree of accuracy. The question of simplifying the returns is engaging the attention of the Financial Commissioners.

43.—Forest Revenue.

461. The revenue of the forest year ending June 30th, 1919, was Rs. 24·61 lakhs and the expenditure Rs. 18·92 lakhs yielding a cash surplus of 5·69 lakhs. The revenue and expenditure were classified as follows :—

Revenue.	Lakhs.	*Expenditure.*	Lakhs.
I.—Timber and other produce removed from the forests by Government Agency	12·72	A.—Extension, constitution, improvement and exploitation of the forest property ...	13·22
II.—Timber and other produce removed from the forests by consumers or purchasers ...	7·52	B.—Administrative, executive and protective charges ...	5·70
III.—Drift and waif wood and confiscated forest produce ...	0·53		18·92
IV.—Revenue from forests not managed by Government	0·05		
V.—Miscellaneous ..	3·79	Cash surplus ...	5·69
	24·61		24·61

462. The revenue rose 2·84 lakhs and the expenditure 6·50 lakhs. The cash surplus of the year was 23·10 per cent. of the gross revenue, as compared with 42·94 in 1917-18 and 41·04, the average of the past 5 years. Owing to the failure of the monsoon and the consequence shortage of water in the floating streams Bashahr timber to the value of some Rs. 3 lakhs was held up and failed to reach the depôt. The wholesale cancellation of military indents, which followed on the armistice resulted in the department being left with considerable stocks of rosin and firewood ; while the Afghan trouble in May necessitated the holding up for possible military requirements of large stocks of timber and firewood in Rawalpindi which would otherwise have been sold. Had it not been for these untoward circumstances the surplus would doubtless have exceeded Rs. [illegible]0 lakhs. It appears probable that the set back is only temporary and will be more than recovered in 1919-20.

463. The true results of the year's working are summarized below :—

	Lakhs.
Cash surplus	5·69
Increase in value of timber and other produce ...	9·71
Increase in value of stock	0·82
Increase in outstandings of revenue	0·69
Increase in outstandings against contractors and disbursers	1·07
Capital expenditure less interest	1·70
Total ...	19·68

44.—Provincial Revenue and Expenditure.

464. The Provincial shares of the Revenue raised and expenditure incurred in the Punjab during the last two years, with the opening and closing balances in each year, are shown in the table below :—

(In thousands of rupees.)

—	Actuals, 1917-18.	Actuals, 1918-19.	Difference between actuals, 1916-17 and 1917-18.
Opening balance	1,22,75	1,94,52	+ 71,77
Revenue	5,50,30	5,72,85	+ 22,55
Expenditure	4,78,53	5,36,55	+ 58,02
Closing balance	1,94,52	2,30,82	+ 36,30

465. The important variations between the years 1917-18 and 1918-19 under the different heads of revenue are shown below :—

(In thousands of rupees.)

I.—Land Revenue	—13,19
V.—Excise	+9,77
VIII.—Income-tax	+1,59
XXI-A.—Agriculture	+3,68
XXV.—Miscellaneous	+2,38
XXIX.—Irrigation Major Works—Direct ...	+2,85
" " " Indirect ...	+14,50

466. Under "I.—Land Revenue" the large decrease is due partly to adjustments made with XXIX.—Irrigation, Major Works, Indirect Receipts, and partly to the failure of the monsoon, which caused an almost total failure of the autumn harvest on unirrigated lands. The phenomenal increase under "V.—Excise" indicates in an unmistakable manner the general prosperity of the people, even though a certain portion of the increase must be ascribed to increased consumption of beer by the large British garrison in the Province. The increase under "VIII.—Income-tax" is due partly to the enhanced assessments under the new Act and partly to the special asssessing agency, which was very successful in discovering large incomes hitherto untaxed. It would have been far greater, if unfamiliarity with the procedure laid down by the new Act had not seriously delayed assessments and consequently collections. Although there have been slight increases in the incomes from departmental farms and well-boring operations, the main increase under "XXI-A.—Agriculture" is purely nominal and is due to book transactions concerned with the purchase and sale of pure seed. The increase under "XXV.—Miscellaneous" is the result of the income of the newly-established copying agency and of increased receipts from the sale-proceeds of town sites. The increased direct and indirect receipts under "XXIX.—Irrigation Major Works" are due to the keen demand for canal water owing to the failure of the monsoon and the large areas irrigated, especially on the Lower Chenab and the Lower and Upper Bari Doab Canals, while the indirect portion of the head benefited by the adjustments referred to above.

467. On the expenditure side the chief variations between the figures of 1917-18 and 1918-19 are as follows :—

	(*In thousands of rupees.*)
3—Land Revenue	+2,79
11—Forest	+6,38
19-A—Law and Justice—Courts of Law ...	+1,73
19-B—Law and Justice—Jails	+3,94
20—Police	+5,02
22—Education	+8,56
24-A—Medical	+2,34
24-B—Sanitation	—1,75
26-A—Agriculture	+3,20
32—Miscellaneous	+4,28
45—Civil Works—Civil	+3,62
" Public Works ...	+15,44

468. The increase in expenditure under "3—Land Revenue" is due to the increased pay in the form of grain compensation allowance at higher rates and the special war allowance which was necessitated by the increased cost of living and which can be assigned as a contributing cause of the rise in expenditure under all heads. Heavy expenditure was incurred by the Forest Department in meeting the anticipated demands of the Munitions Board for timber and other produce, but unfortunately these orders did not materialise owing to the cessation of hostilities. Construction of necessary accommodation at Jallo and Chichawatni, and the temporary debit for water rate of rakhs leased out to temporary cultivation are also contributing causes of the rise. The temporary increase in the number of Judges of the Chief Court in the shape of a Liquidation and an Inspection Judge caused a rise in the figures under "19-A—Law and Justice—Courts of Law." The high dietary charges and the purchase of large quantities of raw material as a safeguard against the uncertain condition of the market account for the increase under "19-B—Jails." Grain compensation allowance at high rates and war allowance are the chief reason of the increase under the head "Police." The increase under "22—Education" is due to larger grants-in-aid. The figures under "24-A—Medical" show an increase which is chiefly caused by larger expenditure on canal dispensaries. A decrease in the amounts granted for sanitary purposes accounts for the difference in the figures under "24-B—Sanitation." The bulk of the increase in expenditure under "26-A—Agriculture" is in respect of schemes financed from the wheat profits. The inflation in the figures under "32—Miscellaneous" is the result of various factors, chief among which are the sum of one lakh placed at the disposal of the Imperial Relief Fund for the assistance of cheap grain shops, and the cost of the newly-established Copying Agency Department. Larger grants for roads account for the increase under "45—Civil Works—Civil." The rise under "45—Civil Works—Public Works" can be ascribed largely to an all-round increase in prices of material, and also expenditure on road repairs necessitated by the division of traffic from the railways, on the Chenab bridge and on Gazetted Officers' houses.

45.—Local Funds.

469. The gross income of District Boards reached the record figure of Rs. 94,90,888—11½ lakhs above the total of the previous year. Rather over three lakhs of the increase was contributed by the local rate, the balance being mainly the result of Government assistance.

470. Variations in income and expenditure under the more important heads have already been discussed in section 24.

REVENUE AND FINANCE.

46.—Municipal Funds.

471. The total receipts of municipalities during 1918-19 amounted to Rs. 86,88,853, a slight advance on last year's figure of Rs. 86,47,286, exclusive in both cases of the receipts of Amritsar Municipality, the records of which were destroyed during the disturbances of last April. A satisfactory increase has occurred in realizations under special Acts, to which the largest contribution is made by cattle pounds. The aggregate expenditure, again excluding Amritsar figures, has risen nearly Rs. 10 lakhs to Rs. 70,85,852. Though receipts have remained almost stationary, disbursements are still well within the limits of income. The total of the closing balances was, however, slightly below last year's figure owing to the investment of considerable sums, mainly in the War Loan. A number of large schemes of public improvement are either in hand or under contemplation, and though few, if any, of these can be undertaken by municipalities without the aid of loans or grants from Government it is gratifying to find that committees are beginning not only to realize the need for better conditions, particularly as regards sanitation, but also to take practical steps towards the necessary improvements. The majority of the municipalities now possess substantial sums at credit—as a rule wisely invested at a good rate of interest in the War Loans,—and this money will be available for the financing, in whole or in part, of the various projects which are to be carried out in the near future.

CHAPTER VI.

VITAL STATISTICS AND MEDICAL SERVICE.

Detailed information on the subjects dealt with in this chapter will be found in the reports and statistical tables noted below :—

PROVINCIAL REPORTS.

Census—Report on the census of the Punjab, 1911, by Rai Bahadur Pandit Hari Kishen Kaul, C.I.E.

Births and Deaths—*Sanitation.* } Report on the Sanitary Administration of the Punjab and Proceedings of Sanitary Board for the year 1918.

Emigration—Census Report as above.

Medical Relief— { Report of the working of the Charitable Dispensaries in the Punjab for the year 1918.
Report on the working of the Punjab Lunatic Asylum for the year 1918.

Vaccination—Report on Vaccination in the Punjab for the year 1918-19.

PUBLICATIONS OF THE GOVERNMENT OF INDIA.

Statistical Abstract for British India, Volume III—Public Health.

47.—Details of Census.

[*Vide* pages 157-67 of the Administration Report for the year 1911-12.]

48.—Births and Deaths.

472. The rough estimated population for the year under report, worked out by adding births and subtracting deaths since the last census, comes to 20,205,141, *i.e.*, 11,114,110 males and 9,091,031 females, the corresponding census figures being 19,337,146 (10,608,101 and 8,729,045). The birth rate calculated on this estimated population is 37·9, *i.e.*, 1·7 *per mille* less than the rate calculated on the census figures. The death rate is 77·5, *i.e.*, 3·5 less than the rate on the census figures. In individual districts the rate calculated on the census figures is in excess except in the districts of Gurgaon, Simla, Rawalpindi and Dera Ghazi Khan, these being districts in which the estimated population shows a reduction as compared with the census figures. In the previous year the only district which showed a reduction in the estimated population was Simla. **General.**

473. With the exception of the last 3 months of the year, 1918 was a healthy year. The death rate from cholera was the lowest on record since 1901 when the rate was the same. That from small-pox exceeded the death rate recorded since 1914, but was lower in all other years since 1900 excepting 1910. Plague accounted for more deaths than in the two preceding years, but under all the other heads of mortality, except fevers, under which head deaths from influenza were returned, there was a reduction. Fevers accounted for a rate of 66·56 *per mille*, the highest yet recorded under this head not excepting even the great malaria year of 1908. It is 49·88 in excess of the average for the years 1912—16 and this excess may be taken to represent the death rate from influenza.

474. The total number of births recorded during the year was 765,468, of which 404,565 were males and 360,903 females, the respective rates being 39·6, 20·9 and 18·7. The total rate shows a reduction of 5·7 compared with last year and 5·6 compared with the average for the previous five years. The birth rate is the lowest on record since 1902, with the exception of 1909. In the 38 principal towns the birth rate amounted to 41·1 *per mille* as against 46·2 last year and 45·3, the average for the previous 5 years. **Births.**

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475. The highest birth rate was recorded in Karnal District where it was 51·3 and the lowest in the district of Dera Ghazi Khan 19·3. The other districts, with a comparatively high rate, were Rohtak 49·2, Gurdaspur 45·7, Ludhiana 45·5, while those with low rates were Simla 21·2, Muzaffargarh 26·5 and Multan 29·9. The highest rates were recorded in the Ambala, Jullundur and Lahore Divisions where, with four exceptions (Gurgaon, Simla, Kangra and Gujranwala), the rate was higher than the provincial rate. In thed ivisions of Rawalpindi and Multan only one district, Lyallpur, had a birth rate higher than the provincial rate.

Deaths.

476. There were 1,565,560 deaths recorded during the year under review, 797,343 males and 768,217 females, the resulting rates being 81·0, 75·2 and 88·0 *per mille*. The corresponding rates for the previous year were 37·9, 35·7 and 40·6, and the average for the previous 5 years 33·4, 31·5 and 35·7. This high rate, the highest yet recorded in the Punjab, is the result of influenza which is recorded under the head of fevers, the rate for which is 66·6. The rate for the other heads of mortality were "all other causes" 5·7, plague 4·9, respiratory diseases 2·7, dysentery and diarrhœa 0·5, injuries 0·3, small-pox 0·2 and cholera 0·01. With the exception of small-pox, plague and fevers, all these rates are less than those recorded in the previous year, while plague, fevers and respiratory diseases are the only heads under which the death rate in 1918 exceeded the average for the previous 5 years.

477. The death rates in all the districts exceeded those recorded in the previous year and the average for the preceding 5 years. The excess in Gurgaon amounted to 103·4 and 119·3, respectively, Rohtak 95·1 and 95·6, Ludhiana 79·2 and 77·4, Karnal 65·2 and 61·1, Hissar 62·3 and 66·0, Ferozepore 56·3 and 57·4. In all the other districts the excess over the previous year was more than 48·6. The highest rates were recorded in Gurgaon 155·4, Rohtak 126·3, Ludhiana 110·4, Karnal 97·3, Hissar 97·2, Montgomery 88·2, Lahore 88·1, Ferozepore 88·0, and Gujranwala 82·4. The lowest rates were recorded in Simla 45·4, Kangra 52·6 and Hoshiarpur 57·7.

478. August and September were the two months in which the lowest death rates were recorded, namely, 1·74 and 1·93, and they were closely followed by July and June with rates of 2·07 and 2·61. The total death rate in these four months was only 1·38 *per mille* more than the rate recorded in December (6·97). The rates in the first 5 months of the year varies from 2·88 in February to 3·90 in May. The total death rate for the first 9 months of the year amounted to 25·89, *i.e.*, practically double the rate recorded in October (13·92), 8·29 less than the rate in November when it was 34·18 and about half of the total rate recorded in the last quarter of the year, which was 55·07. Influenza was entirely responsible for the abnormal rate in November and the high rates in October and December. The last quarter of the year is usually the unhealthiest period of the year owing to malaria, but in the year under review the deaths attributable to malaria were insignificant compared with those due to influenza, which was general throughout the Province. The death rate in November was the highest yet recorded in any one month not even excluding October 1908, the great malarial year.

479. The highest death rates, as usual, were recorded under the age group "under one year," *viz.*, 248·83 in the case of males and 235·91 in that of females. Next to infants, old people of 60 and upwards suffered most, the rates being 114·64 and 164·73. The age group between 50 and 60 came next with 93·71 and 108·14 and the age group 1 – 5 with 93·72 and 96·02. In the remaining age groups the rates varied from 79·57, the female rate for the age group 30—40 to 37·13, the male rate for the group 5—10. With the exception of the rates for infants under one year the female rate exceeded the male rate under every other age group. Calculated on the number of births during the year the death rates for infants were 261·19 and 264·36 as against 247·35 and 248·60 in the year preceding.

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480. Gujranwala and Attock districts again recorded more deaths under "other classes" than the actual numerical population of this class and on this occasion are supported by Gujrat. Montgomery accounts for more deaths among Indian Christians than the numerical population shown for this class. Very high death rates are recorded under "other classes" in Dera Ghazi Khan. Montgomery, Jhang, Sialkot, Gurgaon, Lyallpur, Multan and Gurdaspur and in the case of Indian Christians in Multan, Gujranwala, Shahpur, Lahore and Sialkot. These abnormal rates have been remarked on previously and suggest that the population for this class is not recorded correctly. The total rate for Muhammadans was 81·32 as against 80·09 for Hindus, while the total rates for Indian Christians and other classes were 100·80 and 107·01. The rate for Hindus is relatively higher than it was last year compared with the rate for Muhammadans.

481. The urban rate was 70·30 and the rural rate 82·03 as against 42·77 and 37·43, respectively, last year and 36·74 and 33·06 the average for the preceding 5 years. The urban rate was in excess of the rural rate under all heads of mortality, except fevers in which, however, the excess in the rural rate was very marked, amounting to 24·64 *per mille*. This is due to influenza which caused a higher mortality relatively in rural areas than in towns. The rates recorded in the three largest towns were Multan 75·77, Amritsar 71·90 and Lahore 62·41. These rates are considerably in excess of the rates recorded in the previous year and the average for the preceding five years. The increase in Multan is due to plague and fevers and in the other two to fevers.

Cholera.

482. The mortality from cholera was the lowest on record since 1902 and amounted to 257, as compared with 1,365 deaths in the previous year, the rate being 0·01 *per mille* as compared with 0·07 in 1917 and 0·30, the average for the previous 5 years The mortality was highest in the Jullundur District, where 56 deaths occurred, Ferozepore coming next with 53. July, August and September were the worst months in respect of cholera during the year under report, the mortality amounting to 77, 57 and 46, respectively. In October the number of deaths fell to 10, while in November and December the province remained altogether free.

483. The usual history of cholera in the province is that it is first imported from other provinces and thereafter the course of events depends upon whether or not it happens to be a "good year" for cholera. In 1918 various foci of infection were established by importation, but as it was not a "good year" for cholera the disease did not spread to any appreciable extent. With few exceptions the imported cases, as usual, were the result of pilgrimages to Hardwar, and as long as that place continues to be the disseminating centre for cholera the Province will always be at the mercy of the factors which operate to make a "good year." The constant menace of Hardwar has already engaged the attention of Government, and the Inspector General of Civil Hospitals, Punjab, was deputed to visit that town with a view to seeing whether some preventive measures could not be suggested. A copy of his report has been forwarded to the Government of the United Provinces.

Small-pox.

484. Deaths from small-poxduring the year numbered 3,032 against 1,417 in 1917, giving an annual rate of 0·16 and 0·07 *per mille*, respectively, comparing favourably with the average for the previous five years, which was 0·49. No district escaped the disease and the mortality rate from small-pox was as high as 0·82 per *mille* in the district of Lahore and 0·57 in Amritsar. The number of deaths from this disease among children under one year of age was 725 as against 302 in the previous year, whilst the number for over one and under ten years of age was 1,707 as against 911.

485. General vaccination operations begin on the 1st of November, but owing to the epidemic of influenza, in connection with which the vaccination staff was freely employed, little could be attempted in the way of an intensive campaign of vaccination until the end of that month.

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Plague.

486. There were 95,742 deaths in British districts and 18,734 in Native States, a total of 114,476 during the year under review. This was a severe epidemic after two mild years. One important factor that contributed to this was the large legacy left to this year from the previous year in that no less than 16 districts were infected at the close of the year 1917. The disease was chiefly bubonic in type, though a few septicæmic and pneumonic cases were also noted.

487. The case mortality was 76·7 per cent. in the British districts. The Jullundur, Lahore and Rawalpindi Divisions were the worst infected, the first two alone accounting for 64 per cent of the total mortality in British districts. In the Multan Division the City of Multan suffered from a very severe epidemic during the first half of the year. The Simla District remained free throughout the year, while the Dera Ghazi Khan and Muzaffargarh Districts may also be considered to have escaped since there were only a few imported cases there. About a dozen districts were still infected at the close of the year with an epidemic of a mild type.

488. As usual the mortality went up month by month during the first 4 months of the year. It began to drop in May, except for the districts of Amritsar, Sialkot, Gujrat, Shahpur, Attock and Jhang, where the figures exceeded those of April. There was a rapid fall in June, and this downward curve was carried on to October after which there was a slight rise. March and April were conspicuously wet months producing very favourable conditions for the breeding of the rat fleas which continued to flourish in the slightly drier month of May.

489. The plague staff during the course of their work continued to impress upon the public the value of simple sanitary measures, especially in the hot weather. A large number of copies of Major Norman White's memorandum on plague prevention were distributed in the districts and the contents explained to the people. Trapping, baiting and smoking measures were carried out throughout the year, but more specially during the hot weather in all late infected villages and in places affected annually or during the previous year, with a view to reduce the number of foci of infection in the next season. Some 2,000 villages and towns were thus treated during the summer, and it is gratifying to note that in only a few of the villages thus treated did plague reappear during the ensuing season. The use of cresol fumigation for the purpose of killing fleas has become popular with the people, and there is no doubt that its timely use combined with ratting has helped to check the spread of the disease in many places, notably Rawalpindi and Multan, while the public appreciate the simplicity of solar disinfection and resort to it willingly. Jhang Municipality was the only body which employed the method of evacuation effectually and thus saved the city from an epidemc. However 48 villages were completely evacuated in the whole province, and about 200 partially.

490. The public are still rather apt to run away in panic from an infected place when the disease has become well established thus carrying the disease to other places. Unfortunately little use is made of the special powers of self-protection against persons from infected places under section 141, Punjab Plague Manual. Rewari Municipality, it is true, made an effort in this direction, but only for about two months when the want of co-operation told its inevitable tale. There is, however, a distinct change for the better in the attitude of the people. They are gradually beginning to understand the causation and spread of plague, and although there are still many who are opposed to plague measures, the majority of these are elderly persons unable at their time of life to imbibe fresh ideas.

Fevers.

491. During the year under report a total of 1,287,027 deaths was registered under the head of "Fevers" against 510,812 in 1917, showing an increase of 776,215 deaths. The increase was almost entirely due to influenza, deaths from which were, according to instructions, returned under the heading of "Fevers" or "Respiratory diseases" according to

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circumstances. The mortality from fevers is the highest on record since the introduction of the system of registration of vital statistics in this province in 1867. The death rate was 66·56 against 26·42 in 1917 and a quinquennial mean of 19·12. The number of deaths in November reached a total of 637,959.

492. The highest death rate was recorded in Gurgaon 134·88, Rohtak coming next with 109·07, Karnal 85·40, Hissar 84·66, Montgomery 77·56 and Ferozepore 75·30. The lowest rate was recorded in Simla 28·28.

493. The urban and rural fever death rates were 44·17 and 68·81 as against 21·46 and 26·91 in the previous year. In the three largest towns rates of 40·80, 39·71 and 32·77 were recorded in Amritsar, Lahore and Multan, those for the previous year being 29·95, 25·89 and 30·46 and for the quinquennium 19·56, 21·07 and 19·28. When compared with 1908 Amritsar showed a decrease of 27·36, but the increases in Multan and Lahore amount to 8·97 and 6·02, respectively. In the smaller towns rates as high as 135·52 were recorded at Hodal, 134·61 at Faridabad, 128·62 at Palwal, 124·50 in Firozpur-Jhirka and 111·22 in Bahadurgarh. The mortality from fevers was higher in all the districts of the province than in the previous year.

49.—Emigration and Immigration.

494. The conditions detailed in last year's report continued to obtain during the period under view. Two residents of the Gujranwala District, who succeeded in reaching Siam without passports, were arrested by the Siamese authorities and were eventually tried and convicted under the Defence of India Passport Rules. With a view to discouraging further enterprise of the kind full publicity was given to the facts and result of the case.

50.—Medical Relief.

495. During the year two dispensaries were closed and 13 new ones opened, the total number working at the close of the year being 491. Dispensaries.

496. The total number of patients treated during the year was 4,957,555, as compared with 5,440,696 in 1917. The decline is attributable to the non-existence of malaria in epidemic form. In-patients treated aggregated 88,386 as compared with 96,019 and out-patients 4,869,169 against 5,344,677 in 1917. Patients.

497. The following abstract exhibits the more important diseases and conditions for which patients attended dispensaries during the year :— Statistics of Disease.

Cholera	129
Dysentery	56,916
Enteric Fever	1,956
Rheumatic Fever and Rheumatism	79,012
Small-pox	458
Other tubercular diseases	6,013
Diseases of the Eye	991,237
Diseases of the Ear	336,460
Diseases of the Nose	24,065
Dyspepsia	180,479
Diarrhœa	50,880
All other diseases of the digestive system	518,868
Ulcers	404,568
Other diseases of the skin	486,967
Injuries, general and local	189,589

611,523 persons were treated for malaria at fixed hospitals and dispensaries. There was a marked increase in the figures for "all other

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infective diseases" from 9,360 to 215,284. These include cases of influenza, which prevailed in virulent pandemic form during October and November when whole villages and families were attacked. The figures furnish no index of the magnitude of the epidemic which accounted for at least three-quarters of a million deaths. Pneumonia is responsible for an increase of 5,992 cases, the number being no doubt largely augmented by complications and sequelæ of influenza. 288 more cases of small-pox were recorded than in 1917. Other diseases, such as dysentery, rheumatic fever and rheumatism, anæmia, diseases of the nervous and respiratory system, eye, ear, nose, all show a decline ; so that, had it not been for the wave of influenza, the health of the Province would have been unusually good.

Departmental Institutions.

498. The number of cases treated in Police, Canal, Railway and other State-special hospitals and dispensaries was 650,866, as compared with 716,321 the previous year.

Non-aided dispensaries.

499. At the 12 non-aided dispensaries which furnished statistics 84,037 patients were treated and 3,314 operations performed against 90,441 patients and 3,740 operations in 1917.

Surgery.

500. 242,925 operations were performed, compared with 250,691 the previous year. Of this number selected operations totalled 26,031 as against 39,046 in 1917 and include 13,095 extractions of cataractous lens. The districts in which the largest number of selected operations were performed were Ferozepore 9,007, Amritsar 2,744 and Karnal 2,639.

Income and expenditure.

501. The total income of dispensaries of classes I, III and IV was Rs. 17,30,560, as compared with Rs. 16,23,678 in the preceding year. Government contributions amounted to Rs. 1,48,298, Local Fund to Rs. 5,95,270 and Municipal to Rs. 5,72,653 ; while interests on investments, subscriptions and miscellaneous receipts yielded Rs. 9,641, Rs. 1,08,061 and Rs. 1,52,887, respectively. The total expenditure excluding a sum of Rs. 267 which was invested amounted to Rs. 15,81,866.

Mayo Hospital.

502. All the work comprised in the original King Edward Memorial Scheme was completed during the year.

Female Medical aid and education.

503. Despite strenuous efforts to obtain qualified women for employment in the various women's hospitals, wards and dispensaries in the Punjab, the supply is still far short of the demand, and work has been carried on under the same disabilities and disadvantages as in former years. The provincialization of the Women Sub-Assistant Surgeons Service, which is under the consideration of the Local Government, will, it is hoped, ease the situation to some extent. [a]

504. Classes for the training of *dais* have been carried on, at Bhiwani (Hissar), Lahore, Amritsar, Asrapur (Amritsar District) and Multan, the Victoria Memorial Scholarship Fund assisting the Bhiwani, Lahore and Asrapur classes. All excepting Amritsar and Multan, where work has been temporarily stopped, report satisfactory progress. The supervision of *dais* will henceforth be the concern of local Supervising Committees which are being formed at each district headquarters under the auspices of the Punjab Central Midwives Board.

War hospitals.

505. Until early in August 1918 the number of beds in the war hospitals at Lahore, Amritsar, Jullundur, Karnal, Gurdaspur and Lyallpur was 614 when it was reduced to 274. The patients treated during the year aggregated 1,755 as against 2,989 in 1917. The people of the Province displayed their usual practical interest in the welfare of the patients by contributing generously towards their comforts.

Military Dressers.

506. The training of young men as dressers was discontinued shortly after the cessation of hostilities up to which time 1,267 men had received instruction at a cost of Rs. 56,355. The number actually accepted for service by the Military authorities was 882.

(a) The scheme has since been sanctioned.

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507. During 1918 the daily average strength of the Asylum rose to 876·44 or 60 in excess of the total number for whom accommodation is provided. There was therefore a certain amount of overcrowding in the male section. The maximum number of insanes confined on any one day was 904. The number discharged cured was 201, nearly twice as many as in 1917.

508. The Ranchi Central European Asylum having been recently opened, 16 insanes were transferred to it during the year.

509 The Asylum did not escape the influenza epidemic; largely owing to this disease the daily average of sick rose from 66·75 to 82·74, while the total number of deaths was 130 compared with 103 in the previous year. A satisfactory feature of the year was an appreciable decrease in the admissions to hospital for tubercle.

510. Government has sanctioned the acquisition of an unsightly and insanitary plot of land measuring nearly 50 acres which adjoins the Asylum on the south for the erection of a new block for suspected tubercle cases and possibly in due course for the construction of a separate criminal section, while the remaining area will be levelled and put under cultivation, partly by Asylum labour. Money has also been provided for the remodelling of some of the cubicular barracks, and the provision of a segregation area in connection with the measures for the reduction of the spread of tubercle.

511. The number of permanent Asylum attendants has been increased and an enhancement of the pay of the whole warder establishment sanctioned.

51.—Sanitation.

512. The Sanitary Board met seven times during the year, five times in Lahore and twice in Simla. The balance of Rs. 3,69,494 was fully utilized, and out of an additional grant of one lakh a sum of Rs. 84,111 was spent leaving a balance of Rs. 15,899 which lapsed to Government. A fresh grant of 4 lakhs was placed at the disposal of the Sanitary Board for allotment during 1918-19 and from this grants-in-aid aggregating Rs. 26,601 were made upto 31st December 1918 leaving a balance of Rs. 3,73,399 which will be accounted for in the next year's report. Sanitary Board.

513. Orders were passed by Government in regard to the maintenance of sanitary works by local bodies while model rules, as proposed by the Sanitary Board in regard to projections and *tharas* over drains in conformity with United Provinces rules, have been framed by Government and are now enforced in respect of all intra-mural drainage schemes.

514. A Drainage Board has been constituted by Government to deal with questions of flooded or water-logged areas in the Province thus relieving the Sanitary Board of this additional work. Drainage Board.

515. The regulations framed by the District Board of Gurgaon for the improvement of village sanitation and sanctioned by Government are being enforced in 10 large villages of each of the six tahsils in that district. But in the Ambala District similar rules have remained a dead letter, while in the Ludhiana District efforts in this direction proved abortive. Similar schemes have been prepared recently by the District Boards of Jullundur and Lyallpur, and it is hoped that the movement will spread. Village sanitation.

52.—Vaccination.

516. The cost of the Department amounted to Rs. 1,41,816, being an increase of Rs. 11,225 as compared with the figures for the preceding year.

517. The average cost of each successful vaccination was Re. 0-2-10 as compared with Re. 0-3-0 in the previous year. The decrease in the

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cost per successful vaccination is due to the increase in the number of operations performed during the year.

518. The total number of operations performed by all establishments during the year under report was 994,593, an increase of 190,364. Of the total cases 566,062 were recorded as primary vaccinations and 428,531 as re-vaccinations as compared with 621,650 and 182,579 in 1917-18. The decrease in primary vaccination is generally attributed to the prevalence of influenza whilst the great increase in the number of re-vaccinations is the result of a general vaccination campaign against the epidemic of small-pox which prevailed throughout the season.

519. The percentage of males and females to total number of re-vaccinations was 70·25 in the case of males and 29·74 in that of females as against 65·95 and 34·05 in the preceding year. The percentage of success in primary vaccination was 98·6[illegible] as against 98·25 in the previous year while in the case of re-vaccination it was 79·39 as compared with 77·16. This satisfactory result may be attributed partly to the excellent quality of the lymph supplied and partly to the fact that most of the vaccinators have now been trained in the Punjab Vaccine Institute. The percentage of vaccinations in which results were not known to the total number in 1918-19 was 4·53 in the case of primary and 17·82 in that of re-vaccination as compared with 4·80 and 18·71, respectively, in the year preceding.

520. It is satisfactory to record that during the year under report vaccination was performed at dispensaries in 14 districts, the totals being 7,230 primary and 14,243 in re-vaccinations as against 1,280 and 173 in the previous year.

521. One hundred per cent. of the total number of children under one year of age available for operation were successfully vaccinated in the towns in which the Vaccination Act is in force as against 68 per cent. in those towns in which it is not in force, the corresponding rates for the previous year being 85 and 64 per cent. In Lahore, after deducting infantile deaths from births, the number of children available was 5,134, while no fewer than 10,138 were successfully vaccinated. This total no doubt includes children born elsewhere, but resident within the limits of the municipality at the time of vaccination.

Punjab Vaccine Institute.

522. The total number of tubes issued by the Punjab Vaccine Institute was 61,731 as compared with 49,087 in the previous year. Out of the 61,731 tubes issued during 1918-19 results were received in the case of 31,356 tubes showing that 665,452 primary and 347,641 re-vaccinations were performed with an insertion success of 97·68 per cent. in primary and 76·77 per cent. in re-vaccination as against 97·33 and 73·91, respectively, in the previous year.

523. During the war the Punjab Vaccine Institute was the manufacturing depôt for all overseas forces based on India in addition to supplying the Northern Army. Since the commencement of the war the Institute supplied the Army Department with 4 million doses of lymph in addition to meeting all Civil requirements. Owing to the difficulties experienced by the Army Medical Department in storing lymph in Mesopotamia, it was arranged to provide them with the complete staff and equipment of a Vaccine Institute for service in Mesopotamia so that lymph could be manufactured on the spot in accordance with Colonel Forster's system of lymph culture which is exclusively used at the Punjab Vaccine Institute. The offer was accepted and, shortly after the close of the year, the complete staff and equipment of a Vaccine Institute were transferred to the Military Department for service in Mesopotamia.

CHAPTER VII.

INSTRUCTION.

Detailed information on the subjects dealt with in this chapter will be found in the reports and statistical tables noted below :—

PROVINCIAL REPORTS.

Education.—(1) Report on the Progress of Education for the year 1918-19.

(2) Report on the operations of the Department of Agriculture, Punjab, for the year ending 30th June 1919.

(3) Annual Report on the Punjab Veterinary College and the Civil Veterinary Department, Punjab, for the year 1918-19.

Arts and Sciences.—Report on the working of the Lahore Museum for the year 1918-19.

PUBLICATIONS OF THE GOVERNMENT OF INDIA.

Education, Literature and Press.—Statistics of British India, Volume V, Education.

Statistical Abstracts for British India, Volume IV, Administrative, Judicial and Local Self-Government.

53.—General System of Public Instruction.

[*Vide* pages 173-184 of the Administration Report for 1911-12.]

54.—Education.

524. THE year under review has seen a number of important changes introduced into the educational system of this province. **General Summary.**

525. The number of public institutions increased by 125, and that of scholars by 11,584. This increase would have been much greater but for the outbreak of influenza which interfered seriously with the programmes of expansion recently initiated. The number of private institutions of little educational value decreased. The expenditure on nearly all classes of schools increased, representing for the most part improvements in teachers' pay.

526. The following measures mark the more important developments during the year :—

(*a*) *Primary Education*—

(*i*) The scheme for the expansion of vernacular education in rural areas was brought into effect in 1918.

(*ii*) The Punjab Primary Education Act of 1919 was passed by the Legislative Council.

(*b*) *Secondary Education*—

(*i*) Regulations for the institution of a Matriculation and School Leaving Certificate Examination were framed by the Punjab University.

(*ii*) A scheme for agricultural teaching in Middle and High Schools was approved by the Local Government and a grant of Rs. 4,69,000 was received from the Government of India to cover initial expenses.

(*iii*) A system of manual training centres for High Schools was instituted.

(*iv*) Rules were framed under the Land Acquisition Act for the purchase of land for schools under private management.

(*v*) Standard provident fund rules for aided schools were drawn up and a system of special grants from provincial revenues sanctioned to encourage the acceptance of the new rules.

(*vi*) The Subordinate Educational Service was divided into two sections, one for English masters and the junior inspecting staff, and the other for classical and vernacular teachers ensuring a more rapid flow of promotion in either section.

(*vii*) The school courses were revised. This measure involved the reduction of the standard Primary school from five to four classes, the postponement of the teaching of English to the 5th class, and the introduction of optional English into vernacular Middle schools. In future no teacher will be entrusted with more than four classes or forty pupils.

(*c*) *Collegiate Education*—

(*i*) Proposals were submitted to the Government of India for the opening of two Government Intermediate Colleges at Multan and Ambala.

(*ii*) Regulations for the establishment of Honours schools were passed by the Punjab University.

(*d*) *Training and inspection*—

(*i*) Sanction to the addition to the staff of the Central Training College of three new posts in the Indian Educational Service and four new posts in the Provincial Educational Service was received from the Secretary of State.

(*ii*) Four new Normal schools for women and one for men were opened.

(*iii*) A training class for teachers of Agriculture was opened at Lyallpur.

(*iv*) An Inspectress of Domestic Science was appointed.

(*e*) *Technical Education*—

(*i*) The scheme for industrial schools was revised.

(*ii*) A Diploma of Commerce was instituted by the University.

Controlling Agencies.

527. An Assistant Director, Mr. J. H. Towle, late Principal of the M. A. O. College, Aligarh, was appointed. Mr. Crosse, Inspector of Schools, Lahore, proceeded on six months' leave in October 1918, preparatory to retirement. He was succeeded by Colonel W. T. Wright of the Jullundur Division, the latter charge being assigned to Sardar Sahib Bhai Bishan Singh. Sardar Sahib Bhai Hari Singh, Inspector of Multan, was promoted to the Indian Educational Service and awarded the title of Sardar Bahadur in recognition of his services. Lala Ratan Lal, Assistant Inspector of Science, was promoted to an Inspectorship. Mr. H. T. Knowlton, Principal, Central Training College, was transferred to Ambala as Inspector, his place being taken by Mr. H. G. Wyatt, Inspector of Rawalpindi, the charge of which was assumed by S. Maqbul Shah. By the retirement of Rai Bahadur Lala Sundar Das Suri, the Department has lost a valuable officer with long experience of inspection and training. The vacant Assistant Inspectorship was filled by the promotion of M. Mohsin Mirza. The Assistant Inspectorship of Schools in Baluchistan was brought on to the Punjab cadre.

528. Miss Stuart Douglas, Inspectress, retired, Miss L. Stuart taking her place, but remaining attached to the Normal School for Women, Lahore. Miss Ahmad Shah was appointed Assistant to the Chief Inspectress, but was to work as Inspectress of Multan on Miss Marshall's transfer to the North-West Frontier Province. In order to make the posts of inspectresses more attractive the salary was raised.

District Boards.

529. The total educational expenditure of District Boards, exclusive of Government contributions, rose from Rs. 12,54,019 to Rs. 13,50,620. Including the recurring imperial grants Government assisted to the extent of Rs. 15,28,836. District Boards generally have responded well to the increased demands on them for education.

Municipalities.

530. Municipalities with the exception of Lahore and Multan, have not devoted much attention to Primary education. The expenditure met from their own resources rose from Rs. 4,07,651 to Rs. 5,40,197.

Collegiate Education.

531. The establishment of a new college at Jullundur under the authorities of the Lahore D. A.-V. College brings the total number of such colleges to 13. The number of students fell from 4,621 to 4,570. Two members of the Government College staff were absent on military duty.

532. The Punjab University instituted a Diploma in Commerce. Several University lectures on special subjects were delivered, including the lectures on Archæology in India by Professor A. Foucher of Paris.

533. A special grant of Rs. 3 lakhs was made to the Khalsa College, Amritsar, in commemoration of the services rendered by the Sikhs in the War. A plot of land has been purchased by the Sanatan Dharm College for playgrounds and hostel extensions. The Guru Nanak Khalsa College, Gujranwala, erected seven rooms of its new building.

Secondary Education (Boys).

534. The number of recognised secondary schools for boys rose from 426 to 454 and the number of scholars from 110,839 to 115,526. The new institutions consisted of 15 Anglo-Vernacular Middle Schools and 13 Vernacular Middle Schools, but 14 existing Anglo-Vernacular Middle Schools were raised to the status of high schools.

535. The total direct expenditure rose from Rs. 29,91,845 to Rs. 32,65,990: of this sum Rs. 14,89,070 was derived from fees and Rs. 4,62,130 from private sources. The number of teachers rose from 6,157 to 6,538. Of these 4,360 are trained as compared with 4,074 in 1917-18.

536. The headmasters of the schools situated in the recently disturbed areas were, with few exceptions, able to maintain school discipline unimpaired during a period of considerable tension. The Co-operative Societies' movement has made rapid progress.

Primary Education (Boys).

537. Inspite of the outbreak of influenza 338 new Board schools were opened, as compared with 114 in the previous year. Multan with 48 new schools headed the list. Owing to the conversion of many aided indigenous schools into Board schools, the number of the former decreased by 157, while 93 unaided indigenous schools were closed. The result is a total of 5,167 schools or 90 more than the number in 1917-18. There was an addition of 12,207 pupils attending Board schools with a decline of about 6,000 in aided schools and of some 3,000 in unaided schools, so that the net gain is 3,441, enrolled in the more efficient Board schools.

538. The number of agriculturists' sons at Primary schools increased. In the Multan and Jullundur divisions, for example, there was an increase of 2,465 and 4,392 respectively; while in the Attock district alone, an agricultural area, there was an increase of 1,334 scholars. The pay of the teachers improved, and now runs from Rs. 15 to Rs. 30 and in some cases to Rs. 35. Total expenditure increased from Rs. 17,01,552 to Rs. 18,89,396.

539. Practical work, *e.g.*, sericulture in sub-montane tracts and wool-spinning, mat-making, charpai weaving, and the like, elsewhere supplemented the ordinary school instruction, while gardening in connection with Nature Study is receiving special attention.

INSTRUCTION.

Training of teachers.

540. The number of men and women under training rose from 1,085 and 323 to 1,180 and 326, respectively. The numbers of pupils in mofussil normal schools for women increased considerably and little difficulty was experienced in obtaining candidates for admission (chiefly Muhammadans). In the Lahore school, however, the numbers declined from 162 to 144 owing to marriage, sickness and other causes.

541. The Central Training College had an average attendance of 266 students, of whom 67 were graduates. The results of the various examinations in which 211 candidates passed out of 220 show that the standard of work is as high as ever. Mr. H. T. Knowlton retired from the Principalship after 22 years' service, and the Punjab has lost in him a great educator. The Government contributes six stipends annually towards the class for training kindergarten mistresses at St. Deny's School, Murree.

Professional Technical and Special education.

542. The number of students in the Medical College rose from 289 to 324 ; while the number attending the Medical School is 379 (including 52 on Field Service). The College suffered a great loss in the death of Lieutenant-Colonel H. G. Melville, Professor of Materia Medica.

543. In the Mayo School of Art a new department was opened for the training of architectural draftsmen under the superintendence of Mr. B. Sullivan, A.R.I., B.A., Consulting Architect to Government. A grant of Rs. 1,50,000 was sanctioned by the Government of India towards the cost of the Carpentry School at Jullundur.

544. A revised course of instruction in the Railway Technical School was mapped out leading to the 3rd year course of the Railway literate apprentice class. In connection with this institution a school for the training of disabled soldiers in oil engine and motor work was opened to which 46 persons were admitted.

Female Education.

545. The number of schools for girls rose by 5 to 1,020. Several of the Primary Schools were raised to the Middle standard and the number of secondary schools for girls is now 70, of which 9 are High Schools. The number of scholars rose by 2,768 to 54,755, the attendance being greatest in the divisions containing large towns. The expenditure remained practically stationary and amounted to Rs. 7,39,681, of which Rs. 3,16,450 was spent on secondary schools.

546. The attendance at the Kinnaird College rose from 24 to 30 (21 in Intermediate and 9 in B.A. Classes).

547. The number of girls, who completed the Middle School, course was 585 against 481 in the previous year. The Punjab Association considerably improved the equipment and the pay of the staff of its schools, but a committee of Indian ladies appointed to visit the schools took no action.

548. A conference on the education of girls was held in February 1919 in Lahore at which a number of important recommendations were made.

549. The new Inspectress of Domestic Science visited a number of secondary schools and gave advice on the teaching of this important subject. From January 15th to April 10th she held daily classes in Domestic Science which were well attended by Indian ladies, teachers and girls.

Education of Europeans.

550. The number of public schools decreased by 1 to 33, the small and unsatisfactory Railway School at Bahawalnagar being closed. The number of scholars increased by 74 to 3,024. The total direct expenditure increased by Rs. 2,202 to Rs. 3,94,779. Special capital grants of Rs. 30,000 to the Ayrcliff School, Simla, and of Rs. 15,000 to St. Deny's Murree, were made last year. The Inspector of European Schools is not wholly satisfied with the trained teachers from St. Bede's. The provident fund rules have been revised and the fund is popular.

551. The results of the departmental examinations were not so satisfactory as usual, owing to the interruption to studies caused by influenza. The results of the Cambridge Local Examinations were very poor. The establishment of a board of moderators proved beneficial, as no complaint

was received as to the nature of the papers. An oral test in Urdu was introduced and conducted by the Reporter on Books who submitted a valuable report on the Urdu teaching. His visits should do much to improve the work in this subject.

552. The Primary School scholarship examination was abolished. In future, Primary scholarships will be awarded by the Inspector, after testing the most promising candidates selected by head teachers. The number of scholarships has been increased.

553. The Lawrence School, Ghora Gali, headed the list in both the High and Middle School examinations and won 12 scholarships. The scale of salaries in this institution was improved in September 1918.

554. A large plot of ground, with two cottages, was purchased for St. Deny's School, Murree, and the Station School, Rawalpindi, was enlarged with the help of a Government grant.

555. The staff of the Aitchison College suffered somewhat from changes of personnel, amongst other absentees being Mr. A. A. Ritchie, who joined the Indian Army Reserve of Officers. *Education of special classes.*

556. There was a most satisfactory increase in the number of Muhammadans in schools, especially in the Rawalpindi and Multan Divisions. Several Inspectors comment on the difficulties Islamia Schools experience with regard to managing committees. The Anjuman Taraqqi-i-Islam, Amritsar, is providing scholarships for poor Muhammadans.

557. Out of 157,372 non-Brahman Hindus under instruction there were 1,463 Jains. Their number has decreased by 487 since last year.

558. There was a falling off in the number of boys attending low caste schools, mainly due to the ravages of influenza. The Jullundur Inspector, on the other hand, reports an increasing number of low caste children in ordinary village schools. The attendance at low caste schools is not confined to low caste children. Of the 23 low caste schools in the Lahore Division, 14 are maintained by Christian Missions and 5 by the Arya Samaj.

559. The number of books submitted for the consideration of the committee further declined from 384 to 280. This decrease was due to the high cost of printing and publishing during the War. The Urdu readers were revised and various new publications were completed for the press. The term of contract with the Committee's printers having lapsed at the close of the year, tenders for a new contract for five years were invited. It was decided to accept the tender of the old contractors which was for Rs. 1,30,000, an improvement of Rs. 30,000 on the terms of the previous contract. Only eleven books were received for consideration in connection with the award of prizes but, under the revised rules, none of these was considered worthy of a prize. Three of the seven committees appointed last year to standardise technical terms completed their task. *Text Book Committee.*

55.—Literature and the Press.

LITERATURE.

560. The slight decrease in the number of books is more than made up by an appreciable increase in periodicals. The number of Punjabi publications exceeds that of the publications in any of the other languages. Poetry and Religion continue to be the largest contributors, but Politics show a marked increase, while Art, Philosophy, Science and Voyages and Travels cut a poor figure. Almost all the works under 'Fiction' have a didactic aim. The 'Bagh-i-alam,' an Urdu translation of the 'World in pictures' is s beautifully illustrated manual published by the Punjab Text Book Committee and supplied free to the libraries of all Vernacular Middle Schools. Some improvement in the quality of 'Religious publications' is noticeable, the tone of even controversial publications being less offensive than before.

561. On the whole, the literature of the year compares rather favourably with that of the previous year.

PRESS.

Newspapers.

562. The total number of newspapers and periodicals of all kinds published in the Punjab during the whole or part of the year under report was 264, as contrasted with 268 in 1917. Of these 264 newspapers, 176 were in Urdu, 55 in English, 21 in Gurmukhi, 9 in Hindi and 3 bi-lingual. The number of daily newspapers was 15, weekly 76 and monthly 147. The remainder appeared at irregular intervals. Of the 15 daily newspapers, 5 were in English, one in Hindi, and the remaining 9 in Urdu, of which 4 represented the Hindus and the same number the Muhammadan community, the ninth being a war publication.

563. One hundred and fifty-six newspapers and periodicals were published in Lahore and 43 in Amritsar, these figures being identical with those for 1917. Other centres of journalistic activity were the Gurdaspur District (10), Simla (9), Ferozepore (8), Sialkot and Rawalpindi (5 each) and Gujrat and Gujranwala (4 each).

Circulation.

564. The combined circulation of the whole Punjab press is estimated at 320,000 copies, as compared with 246,000 and 270,000 in 1917 and 1916, respectively. The following were the more important newspapers in the province :—

English.

1. *Civil and Military Gazette* (European, daily).
2. *Tribune* (Hindu, daily).
3. *Panjabee** (Hindu, daily).
4. *Bulletin** (Hindu, daily).
5. *Khalsa Advocate* (Sikh, weekly).
6. *Observer** (Muhammadan, bi-weekly).

Vernacular.

(a) **Urdu**.

7. *Hindustan** (Hindu, weekly).
8. *Himala* (Hindu, weekly).
9. *Paisa Akhbar* (Muhammadan, weekly).
10. *Loyal Gazette* (Sikh, weekly).
11. *Parkash* (Arya, weekly).
12. *Arya Gazette* (Arya, weekly).
13. *Vakil* (Muhammadan, bi-weekly).
14. *Al-Munir* (Muhammadan, weekly).
15. *Sitara-i-Subah** (Muhammadan, daily).
16. *Rajput Gazette* (Hindu, weekly).
17. *Akhbar-i-'Am* (Hindu, weekly).
18. *Urdu Bulletin** (Hindu, daily).
19. *Khalsa Akhbar* (Sikh, weekly).
20. *Sanatan Dharm Parcharak* (Hindu, weekly).
21. *Ahl-i-Hadis* (Muhammadan, weekly).
22. *Desh* (Hindu, daily).
23. *Paisa Akhbar* (Muhammadan, daily).
24. *Public* (Hindu, daily).
25. *Al-Fazal* (Ahmadia, bi-weekly).

* Has since stopped publication.

26. *Kashmiri Magazine* (Muhammadan, weekly).

27. *Watan* (Muhammadan, weekly).

28. *Leader* (Hindu, daily).

29. *Aftab* (Muhammadan, daily).

30. *Jat Gazette* (Hindu, weekly).

(*b*) **Gurmukhi.**

31. *Khalsa Samachar* (Sikh, weekly).

32. *Panth Sewak* (Sikh, weekly).

33. *Punjab Darpan* (Sikh, weekly).

Of these, the circulation of Nos. 2, 7—9 was claimed to be above 4,000; of No. 1, 4,000; of No. 31 above 3,000; of Nos. 10—12 above 2,500; of No. 22 above 2,000; of Nos. 17, 28 and 32, 2,000; of Nos. 13 and 24 between 1,500 and 2,000; of Nos. 14, 15, 18, 19 and 21 above 1,000; of No. 4, 1,000; and of the rest between 500 and 1,000.

565. The total number of declarations filed under section 4 of Act XXV of 1867 during the year was 25, and under section 5, 242. Security was demanded on twelve occasions by District Magistrates. These demands were made either on original declaration, or on re-declaration, or by varying a previous order. No demand was made by the local Government in the year under report. Executive action.

566. Action under the Defence of India (Consolidation) Rules, 1915, was confined to the imposition of a censorship order on the *Observer* and the issue of exclusion orders against two Madras and three Calcutta newspapers. The editor of the *Punjab* newspaper was required to abstain from journalism during the course of the war. As, however, he gave the required undertaking the order was never formally served on him.

567. Formal warnings were administered through District Magistrates to newspapers and periodicals as follows :—

(*a*) Seven for publishing articles open to exception on political grounds.

(*b*) Eight for writings calculated to arouse sectarian feeling or religious animosity.

(*c*) Two for publishing matter of an alarmist character.

(*d*) Five for unjustifiable attacks on Government servants and Indian Chiefs.

(*e*) Three unclassified.

Six publications were proscribed under section 12 of the Indian Press Act (I of 1910).

Three prosecutions were instituted under section 3 of Act XXV of 1867, while fifteen warnings were given under this section.

56.—Literary Societies.

[*Vide* pages 196 and 197 of the Administration Report for the year 1911-12.]

57.—Art and Sciences.

LAHORE MUSEUM.

568. IN connection with the visit of the Industrial Commission an Art and Craft Exhibition of the Mayo School of Arts and all its affliated Industrial Schools was held in the new gallery. The result was a fairly representative exhibition showing the qualities and limitations of each school. About a dozen schools contributed furniture, metal works and drawings, while the parent institution exhibited a large collection of all kinds of craft work including silver work, cotton Exhibition.

printing, lithography, process work and Indian Paintings, thus giving the staff and the students of the various schools an opportunity of studying work of a higher standard of design and finish. The exhibition remained open for about a month during which time it was visited by some hundreds of Europeans and Indians, and nearly every saleable article was purchased.

Buildings.

569. The Museum compound has been re-aligned to suit the scheme for widening this part of the Mall. When the scheme, which includes the erection of gates and a balustrated wall, is completed the appearance of the Museum will be greatly enhanced. The Zamzama gun has been allotted a much better position on a central platform commanding this portion of the Mall, and it can now be seen to the best advantage.

Visitors.

570. The total number of visitors during the year 1918-19 was 512,395 with the daily average of 1,463 as against 361,563 and 1,021, respectively, in the previous year. The increased popularity of the Museum, in spite of the effects of war, and influenza, is encouraging. 9,300 women, as compared with 8,540 in the previous year, visited the Museum during the 12 Zanana days.

Educational work of the Museum.

571. The usual course of lectures was delivered during the cold weather, the average attendance being 164 as against 235 in the previous year. Lantern slides on many new educational subjects were made and loaned to lecturers throughout the province, the North-West Frontier Province, Delhi and Mesopotamia. The demand for these is very great.

Acquisitions.

572. Apart from coins and the Treasure Trove usually presented by the various Governments, few articles have been acquired. Nine Greek didrachms were purchased by the Museum through Mr. R. B. Whitehead, I.C.S. Four pieces of Nepalese jewellery inlaid with precious stones, such as are worn by Nepalese priests, were also added to the jewellery section and a series of paintings from Basoli to the Painting Section of the Museum. These paintings are of considerable interest showing as they do that the Basoli School is of Pre-Mughal origin.

Loan Collection.

573. The entire collection of East African Native arms, implements and curiosities found at Dare-es-Salam by the British Troops and loaned to the Museum by Major-General R. H. Ewart has, with the exception of the embroidered banner, been transferred to the Imperial War Memorial Museum at Delhi.

Finance.

574. The expenditure amounted to Rs. 11,571, as compared with Rs. 9,897 in the year 1917-18.

CHAPTER VIII.

ARCHÆOLOGY.

Detailed information on the subject of this chapter will be found in the annual progress reports of the Superintendent, Hindu and Buddhist Monuments, Northern Circle, Lahore, and of the Superintendent, Muhammadan and British Monuments, Northern Circle, Agra, for the year ending 31st March 1919, and in the Administration Report of the Buildings and Roads Branch, Public Works Department, Punjab, for the year 1918-19.

58.—Archæology.

HINDU AND BUDDHIST MONUMENTS.

575 During the year 1918-19, Rs. 3,290 were expended on special works of conservation on the Hindu and Buddhist Monuments in the Punjab and Rs. 1,201 on annual repairs. The special works executed were those carried out on the temple and its gateway at Malot, on the Buddhist *stupa* at Katas in the Salt Range and on the temples of Masrur and Baijnath in the Kangra District. For the work at Malot an estimate amounting to Rs. 3,927 was framed in accordance with the recommendations of the Superintendent, Hindu and Buddhist Monuments, and sanctioned. During the year under review a sum of Rs. 1,000 was allotted for the purpose and completely expended. The measures carried out consisted of the filling up of the large hole in the roof of the sanctum, repairs to the crowning *chhatri*, and the underpinning of the decayed masonry in the north wall of the gateway.

576. The ruined structure situated in a field to the east of the Satghara temples at Katas was identified in 1889 A. D. by Dr. (now Sir) Aurel Stein as the *stupa* built by Asoka at Singhapura. Now though the identification of Katas with the Singhapura of the Chinese pilgrim Hiuen Tsang appeared to leave no room for doubt, the *stupa* referred to was evidently built in a much later architectural style, though the question could not be definitely decided without some excavations. Tentative excavations were accordingly carried out at a small cost and they revealed the existence, inside the outer edifice, of an earlier structure, also a *stupa*, whose age was definitely determined by pilasters and capitals in Gandhara style. A shaft was sunk into the centre of the structure down to virgin soil, but did not yield any relics of value. But though it is now obvious that this *stupa* cannot be identical with the Asoka *stupa*, it is one of the most ancient visible monuments of the Punjab and will deserve preservation.

577. The temples at Masrur have now been completely conserved and the only work that was carried out during the year under report was the cleaning of the temples with Suzerelney stone liquid, and the underpinning of certain masonry. Similar measures were also carried out at the temples of Baijnath.

578. No excavations were carried out in the Punjab during the year under review, with the exception of the little experimental digging at Katas, referred to above. There are numerous ancient city sites and other mounds in the province which await exploration. Proposals for the protection and acquisition of certain mounds at Harapa in the Montgomery District have been submitted to Government and the excavations at these mounds will, it is hoped, yield important and valuable relics. The tours of the Superintendent brought to light several new well-preserved sculptures, and a large number of unpublished inscriptions were copied of which the Sanskrit inscriptions in the great Minar at old Delhi and those deposited in the Central Museum at Lahore deserve special mention. Summaries of the contents of the more important inscriptions have been incorporated in the Annual Report of the Northern Circle for the year 1918-19 and they will be separately described in the Epigraphia Indica.

MUHAMMADAN AND BRITISH MONUMENTS.

579. Rs. 26,131 were expended on the conservation of Muhammadan and British Monuments in the Punjab during the year ending March 31st, 1919. Of this amount Rs. 17,883 were devoted to "Maintenance" and "Annual Repairs" and the residue to "Special

Repairs" (non-recurring charges). The monuments principally concerned were those at Lahore where, in addition to an expenditure of Rs. 13,088 on maintenance, special repairs were carried out at the Shalamar Garden. Missing stone brackets to support an upper balcony were replaced in the north-east corner pavilion on the first terrace, and the incongruous modern piers which previously served this purpose dismantled. A dilapidated dome was also repaired.

580. The little Sikh pavilion on the same terrace was re-roofed, and the decaying portion of its panelled ceiling renewed. A new wooden gate was provided to the east gateway of the 3rd (lowest) terrace to replace the modern brick filling and the dilapidated stairway adjoining was repaired. A large well and the tanks adjacent to it to the west of the first terrace, which feed the fountains in the garden, were also repaired, together with the ruined walls in the vicinity. A small sum was spent in making good incidental damage caused to the brick paving through the felling of trees on the central terrace about the main tank in connection with the laying out of a rose garden, and necessary repairs to the water-pumping plant were carried out. Repairs to the pumping installation at Hazuri Bagh were also undertaken.

581. At the Akbari Sarai at Shahdara the more urgent conservation work necessary to the range of little chambers around the Serai enclosure was completed and the inappropriate cinder track in front of them taken up and replaced with grass. The land and enclosure walls of Asaf Khan's Tomb adjacent were acquired at a cost of Rs. 12,500, and it is hoped that the urgently needed repair of this monument will soon be taken in hand.

582. A commemorative monument in the form of a low obelisk with an inscription designed by the Consulting Architect to the Punjab Government is being erected to mark the site of Buddhu-ka-Awa, a mound formed of the remains of one of the large brick kilns erected for the supply of bricks required in the building of Shahjahan's City of Lahore and on which later was situated the now demolished residence of the Sikh Ranjit Singh's Italian General Avitabile.

583. At Sheikhupura (Gujranwala District), some 20 miles from Lahore, the great Tank and Haran Munara erected by the Emperor Jahangir received further attention, and over Rs. 3,000 were spent on dressing and making up the ground in the immediate vicinity, and in clearing the terraced sides of the tank from accumulated silt. Missing steps at the bottom of the Minar have been rebuilt to connect with the interior flight up to the top, and the undermined portions of the ruined plinth underpinned. Remaining fragments of plaster have been secured in position with a fillet of cement around the edges. The concrete floors of the several baradaries in and about the tank have also been repaired, as well as dilapidated portions of the tank platform. The undermined brick sides of the old inlet channel and subsidiary settling tank have been secured, and the deep open-jointing filled with mortar.

584. Small repairs of the adjacent Tombs of Sheikh Chilli and his mother, and of the Pathar Masjid at Thanesar were undertaken. In the case of the first monument the work consisted of pointing open-jointing in the marble walls and dome, removing oil stains and scribbling from the walls, and clearing the thickly growing jungle from the enclosure. The lower brick walls of the second tomb were underpinned and the spalled marble masonry above them secured, while at the Pathar Masjid the work comprised the removal of certain mounds of earth which abutted against the building.

585. Special repairs to the old Jahangiri Kos Minars in the Rohtak District along the Grand Trunk Road between miles 16 and 38 commenced in the previous year were carried to completion. The Kos Minars at Ambala and at Jullundur were also repaired. The tomb of Mr. Berkley, Extra Assistant Commissioner, who was killed in a minor engagement with the rebels in 1857 near Kure Shah, was removed to the Church grounds at Montgomery. At Hissar the underpinning of one of the large piers buttressing the rear facade of the Gujari Mahal, which had subsided, was successfully carried out.

CHAPTER IX.

MISCELLANEOUS.

59.—Ecclesiastical Jurisdiction.

(For this section reference should be made to pages 201-207 of the report for 1911-12.)

60.—Ecclesiastical.

586. With the concurrence of the Government of India the Bishop of Lahore, accompanied by his Domestic Chaplain, visited Mesopotamia on episcopal duty with Force D. Canon Wheeler, Chaplain of Simla, and officiating Archdeacon of Lahore, was appointed Bishop's Commissary in charge of the Diocese during the period of absence.

587. Canon K. G. Foster and the Revd. W. O'Conor both died during the year. The former joined the service in December 1900 and the latter in May 1907.

588. Canon H. T. Wheeler was confirmed in the appointment of Archdeacon of Lahore with effect from 25th January 1919 in succession to the Ven'ble J. G. S. Syme.

61.—Stationery.

589. The total value of stationery supplied during the year under report was Rs. 3,90,552 against an allotment of Rs. 4,14,646, showing a net saving of Rs. 24,094. The expenditure was distributed as follows:—

	Rs.
Offices other than Presses	95,339
Presses	2,95,213
Total ...	3,90,552

590. As compared with the preceding year there was an increase of Rs. 57,960, or a little over 17 per cent., which can be ascribed partly to the rise in prices and partly to the unforeseen requirements of the newly-formed Copying Department.

62.—Punjab Government Press.

591. Receipts from the sale of "Gazette," "Civil List" and other Government publications showed a slight increase in comparison with the previous year, but receipts from other sources fell off to the extent of about Rs. 3,500. General expenditure, exclusive of the cost of printing paper and binding materials, increased by over Rs. 30,000, the excess being chiefly due to the purchase of two type-setting machines. The expenditure on contract printing was slightly above the figure of the previous year

592. From the commencement of the financial year an increase of 10 per cent. on piece work rates was granted to compositors. A more favourable rate was also sanctioned for type distributors in the Press.

593. Prices of paper and binding materials reached the highest point on record and economy in the use of these materials was strictly enforced. The use of Jail-made paper was continued for the manufacture of official envelopes, but the quality of this paper has not so far shown much improvement.

594. Shortage of labour, especially in the low-paid appointments, occasionally proved rather a serious handicap and involved more overtime than would have been necessary under ordinary circumstances. During the influenza epidemic the outturn of work was also seriously affected owing to the large number of absentees. Notwithstanding these disadvantages the value of the outturn of work for the year showed an increase of almost Rs. 3,000 as compared with the previous year.

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